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WEATHER BUREAU

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON JANUARY 1, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

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National Oceanic & Atmospheric Administration
U.S. Dept. of Commerce

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.56	776.3	57.9	14.4		NE			2		1			0	0	Very fair	
Nemours			30.54	775.6	60.4	15.8	85	WNW			1		4			0	0	Cloudy	Kesxuche.
Algiers			30.47	773.9	55.8	13.2	66	W			4		0			0.087	2.2	Clear	Tourilière.
La Calle			30.32	770.1	51.4	10.8	85	WSW			4		7			0.433	11.0	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.34	770.5															Grau.
Saida			30.53	775.5															Herbin.
Tebessa			30.37	771.5	34.0	1.1	92	WNW			1		10			0.094	2.4	Covered	Watrin.
Geriville								N			1		2			0	0	Fair	Brugniaux.
Laghouat			30.40	773.6	45.3	7.4	55	NNE			2		0			0	0	Clear	Bertrand.
Biskra			30.37	771.3	53.2	11.8	86	NNW			2		10			0	0	Covered	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 860? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.48	748.7	30.04	763.1	44.2	6.8	58	NW			4		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.76	730.6	29.55	750.5	30.0	2.2	93	SW	1.3	0.8			10			0.240	6.1		Dr. Wierzbicki.
Eperies	28.99	736.3	29.91	759.6	31.3	— 0.4	92	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.74	729.9	30.03	762.7	39.0	3.9	77	SW			2		7			0	0		Andreas Rospini.
Hermannstadt	28.50	724.0	29.98	761.5	36.3	2.4	91	WNW			5		10			0.061	1.55		Prof. A. Gottschling
Kremsmünster	28.72	729.5	30.11	764.7	39.2	4.0	93	WNW			3		10			0.217	5.5		Prof. C. Wagner.
Lemberg	28.83	732.3	29.85	758.3	32.2	0.1	94	NW			1		0			0	0		Dr. T. Stanecki.
Pola	30.04	763.0	30.19	766.8	46.0	7.8	86	SW			1		6			0	0		I.R.Hydrographic Office
Szathmar	29.50	749.2	29.98	761.5	35.2	1.8	93	SE			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.72	754.8	30.01	762.2	36.1	2.3	87	W			2		10			0	0		Karl Stancel.
Trieste	30.10	764.5	30.20	767.1	43.9	6.6	87	Calm			0		10			0	0	Foggy	P. Busin.
Vienna	29.22	742.3			42.8	6.0		W			8					0.161	4.1		I.R.Central Met. Ob'ay

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels	29.82	757.5	30.03	762.7	49.1	9.5	85	WSW			5		10		WSW	0.06	0.15		Royal Observatory
Furnes	30.02	762.5	30.04	763.1	50.4	10.2	94	WSW			6		7			0	0		M. E. de Cae.
Maeseyck	29.90	759.4	30.02	762.6	51.1	9.6	94	WSW			4		10			0.020	0.5		M. Pierrot.

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.22	742.2	29.31	744.5	53.2	11.8		SW	20	8.9			7			0	0	Squally	W. Boswell.
Ardrossan	29.49	749.0	29.50	749.3	50	10.0		SW			5		8					Overcast	Wm. McNeil & G. Carrick.
Armagh, (Observatory)	29.26	743.7	29.51	749.5	53.3	11.8		SW	30	13.4			10					Squally	S. Call.
Bidston (Liverpool Obs)			29.76	755.9	53.0	11.7		SW	34	15.2			10					Overcast	John Harraup.
Bolton (Sharples)	29.24	742.7	29.75	755.6	51.9	11.1		SW	24	10.7			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.34	745.2	29.74	755.4	53.1	11.7		W			2		9			0.68	17.3	Overcast	J. McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	80	26.7		NE			3		6					Gloomy	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.81	757.2	29.90	759.4	55.9	13.3		WSW			4		10					Overcast	H. Todd.
Cardington			29.90	759.4	54.0	12.2		WSW			4		7					D. clouds	John McLaren.
Chatham (School M. E.)	29.88	758.9	30.01	762.2	53.1	11.7		SW			4		9					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	29.54	750.3	29.58	751.3	55	12.8		WSW			5		10					Overcast	J. Mac Gowan.
Dover	29.97	761.2	30.00	762.0	47	8.3		WSW			5		7					¾ clouded	J. Costello.
Falmouth (Observatory)	29.87	758.7	30.10	764.5	52.0	11.1		SW			6		9					Squally	The Staff.
Fort Napier, Natal	27.68	703.1	29.90	759.4	75.0	23.9		SE			1		8					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.55	750.6	54	12.2		WSW			7		10			0.50	12.7	Drizzling	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.25	742.9	29.46	748.3	51.8	11.0		SW			7		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.84	757.9	29.84	757.9	54	12.2		W			4		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.81	757.2	29.98	761.5	53.3	11.8		WSW			4		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.95	760.7	30.17	766.3	51.5	10.8		SW			6		10					Misty	Dr. S. E. Hoskins, F.R.S.
Helston	30.23	767.8	30.35	770.9	54	12.2		SW			7		6k			0.11	2.8	Hazy	M. P. Moyle.
Holyhead	29.72	754.9	29.76	755.9	51	10.6		SW			6		10					Overcast	John Tilston.
Jersey	29.95	760.7	30.25	768.3	49.0	9.4		W			6		10			Blank	Blank	Foggy	J. Fisher.
Kew (Observatory)	29.96	761.0	30.00	762.0	54.2	12.3		WSW	23	10.3			10					Threatening	The Met'g'l Office.
Leicester (Museum)	29.61	752.1	29.87	758.7	54.5	12.5		SW			4		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.19	766.8	30.26	768.6	59	15.0		SE			2		8kn					Overcast	A. King.
Nairn	29.11	739.4	29.20	741.7	54	12.2		WSW			4		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.22	767.6	73.0	22.8		NE			3		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.66	753.4	29.85	758.2	54.7	12.6		SW			4		10d		WSW	0.143	3.64	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.34	745.2	29.86	758.4	52.2	11.2		SW			6		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.04	763.0	30.11	764.8	51.4	10.8		SW			2		10					Drizzling	John Merrifield.
*Roche's Point	29.79	756.7	29.88	758.9	53	11.7		WSW			6		10					Raining	Wm. Kennedy.
St. Ann's Head	29.76	755.9	29.92	760.0	51	10.6		SW			6		10					Overcast	John C. Walker.
Sandwick Manse, Orkneys			29.11	739.4	49.2	9.6		SW	20	8.9			10					Rain & hail	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.04	763.0	30.11	764.8	49.8	9.9		SSW			1		5					D. clouds	Serg't W. H. Lyne.
Sheffield	29.53	750.0	29.81	757.2	53.5	11.9		SW			4		10			0.03	0.8	Overcast	W. F. Cooper.
Silloth Rectory	29.66	753.4	29.69	754.1	51.5	10.8	92	SW			6		10			0.113	2.87	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			29.72	754.9	51.4	10.8		SW	26	11.6			10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss					53.2	11.8		W			3-4		10					Squally	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.04	763.0	30.09	764.3	53	11.7		SW			7		10					Blue sky	W. Newcombe.
Valencia Observatory)	29.71	754.6	29.73	755.1	53.6	12.0		SSW	54	24.1			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	86.0	30.0	27	WNW	9.9	4.4		0	0			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.72	678.7																	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania					75	23.9		NE					0						Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			29.45	748.0	55.0	12.8		W			5		6k			0.13	3.3	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.78	756.4	29.97	761.1	81.1	27.3	64	ESE	18.0	8.0		0	3		E	0.38	9.6	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.02	762.5	30.11	764.8	60.2	15.7	76	SSE	3	1.3			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			29.02	737.1	52	11.1		S			8		10			0.3	8.		
North Unst, Shetland Is			29.09	736.6				SW			6	4	7	S		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Point Delgado, Patagonia			28.99‡	736.3‡	50.8	10.4		NNE			1		9					Overcast	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 44° 20′, W. 31° 10′			30.19	766.8	55	12.8		WNW			8		6			6	WNW	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 36° 25′, W. 131° 15′			29.94‡	760.5‡	66.2	19.0		NNE			6		10					Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 18° 25′, W. 59° 00′			29.99‡	761.7‡	78	25.6		E			5		10					Overcast	Capt. Jas. Buchan.
S. S. Ethiopia, N. 40° 55′ W. 67° 05′			30.09	764.3	36	2.2		NW			6		5	WNW		6	WNW	D. clouds	Capt. Campbell.
Barque Fedalma, N. 36° 20′, W. 53° 50′			30.16	766.1	61	16.1		S			3		10			4	NNE	Overcast	Capt. H. L. Fox.
S. S. German, S. 4° 02′, W. 7° 39′			29.94‡	760.5‡	79	26.1		SSE			3		7					D. clouds	Capt. O. D. Coxwell.
Iron Cross, N. 51° 20′, W. 9° 40′			29.80	756.9	54	12.2		SW			8		10			8	WSW	Misty	Capt. W. Randall.
S. S. Peruvian, N. 53° 00′, W. 29° 50′			29.28	743.7	35	1.7		WNW			7		5					Snow & sleet	Capt. W. H. Smith.
S. S. Strathleven, N. 4° 25′, E. 64° 30′			29.84‡	757.9‡	79.0	26.1		NNE			4		10					Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 47° 40′, W. 31° 20′			29.78	756.4	44	6.7		WNW			7		7			9	NW	Squally	Capt. C. M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.19	665.2	29.91	759.7	60.8	16.0	82	NE			2		2d		E	0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.67	753.7	29.72	754.9	33.4	0.8	92	SSE			4		10						
Farõe	29.62	752.4	29.64	752.9	39.6	4.2	100	WSW			4		10						Foggy
Godthaab (Greenland)																			
Stykkisholm (Iceland)	28.35	720.1	28.39	721.2	27.7	— 2.4	92	NE			6		8						Snowing
Thorshavn (Farõe)	28.61	726.7	28.64	727.6	43.3	6.3	98	S			6		10						Raining
Vestervig	29.46	748.3	29 67	751.1	32.9	0.5	100	SSE			4		10						Raining

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

FRENCH SERIES.

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

Alençon, Normal School	29.73	755.1	30.28	769.1	50.4	10.2	97	WSW			1		10			0.004	0.1	Raining	Collignon, Director.
Amiens, Normal School	29.98	761.6	30.10	764.4	52.9	11.6	90	WSW			2		10		Calm	0.087	2.2	Covered	Vaillant, Director.
Arras, Engin'r School	29.85	758.3	30.11	764.9	50.0	10.0	92	NW			4		10n		NW			Sprinkling	Klein, Commandant.
Avignon, Normal School	30.28	769.0	30.35	771.0	53.6	12	56	N			2		2		N	0	0	Slightly cl'y	Giraud, Director.
Bar-sur-Seine	29.72	755.0	30.30	769.5	47.1	8.4	93	W			2		10			0.453	11.5	Drizzling	C. Saillard, Director.
Beauvais, Normal School	29.93	760.1	30.20	767.0	50.4	10.2	90	WSW			1		10		W	0.118	3.0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.37	746.0	30.30	769.5	41.4	5.2	90	S			1		8		SW	0	0	Very cloudy	A. Carré, Director.
Bordeaux	30.29	769.4	30.49	774.4	49.3	9.6	88	SW			2		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.68	751.4	30.50	774.7	41.0	5	93	S			1		10s		S	0.55	14.	Covered	Marlot, Director.
Bourges, Normal School	29.81	757.2	30.38	771.7	45.5	7.5	93	SW			2		10n		SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.04	763.1	30.29	769.3	52.5	11.4	93	SW			3		10		SW	0.039	1.00	Raining	Ch. de Rermaree, Dir.
Caen, Normal School	30.12	765.0	30.15	765.9	52.9	11.6	87	W			2		8		W	0.087	2.2	Very cloudy	M. Bletrin, Director.
Carcassonne, N. School	30.07	763.6	30.47	774.0	46.4	8	73	W			2		5	S	S	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.81	757.2	30.15	765.7	38.8	3.8	93	SW			2		10	SW	SW			Covered	Jadot, Director
Chartres, Normal School	29.66	753.4	30.26	768.7	34.2	1.2	86	ENE			2		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.01	736.9	30.39	771.9	50.7	10.4	70	W			3		8			0	0		Alluard, Director.
Commercy, Normal School	29.36	745.8	30.30	769.7	45.7	7.6	94	W			6		10n	W	W	1.10	28.	Raining	Dr. Coullet, Director.
Commune de Gréasque*	29.12	739.6	30.26	768.6	48.2	9	58	NW			3		10		W	0	0		L. Kina, Director.
Grenoble, Normal School	29.07	753.7	30.48	774.2	37.6	3.1	98	SSE			1		10			0.04	1.	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.23	767.9	30.45	773.4	50.0	10.0	97	SW			1		10			0.205	5.2	Covered	Mouillot, Director.
Le Mans, Normal School	30.04	763.1	30.36	771.1	48.0	8.9	100	W			4		10			0.094	2.4	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.43	747.6	30.39	771.9	29.7	— 1.3	96	NE			1		10			0.55	14.	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.25	768.3	30.36	771.1	51.4	10.8	93	SW			4				SW	0.083	2.1		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.80	757.0	30.45	773.5	39.7	4.3	100	E			1		10			0.033	0.83	Covered	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.96	760.9	30.23	767.9	52.0	11.1	54	NW			3		10		NW	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.13	739.8	30.21	767.3	40.1	4.5	97	SSW			3		10	NE	NE	0	0	Covered	Barbier, Director.
Mont-Louis	25.15	638.9	30.47	773.9	41.9	5.5	80	NE	9.4	4.2			9		W	0	0		M. Cave
Nice	30.18	766.5	30.21	767.3	53.2	11.8	67	E			2		5	E	E	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.09	764.2	30.30	769.5	55.6	13.2	52	N			1	2c			NW	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	29.96	760.9			51.8	11.0	84	WSW			2		10		W	0.031	0.8		Marié Davy, Director.
Perpignan	30.29	769.4	30.41	772.3	53.2	11.8	46	NW	15.9	6.7			5	NW	NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.																			Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	22.78	578.7			31.6	— 0.2									NNW	0	0		M. Baylac.
Privas, Normal School	29.37	746.0	30.47	773.9	47.8	8.8	30	N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.32	643.2			32.0	0.0	97	W			6					0.110	2.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.43	773.0	30.47	773.8	50.9	10.0	100	SW			1		10	SW	SW	0.08	2.	Covered	Lt E. Decante, Director
Rouen, Normal School	30.13	765.4	30.22	767.6	51.3	10.7	92	SW			2		10		W	0.354	9.0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.23	767.7	30.25	768.4	54.1	12.3	76	WSW			3		8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.08	764.1	30.25	768.3	48.6	9.2	93	SW			1		10		W	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.37	746.1	30.48	774.2	50.0	10	50	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.83	757 7	30.57	776.4	43.9	6.6	91	SW			1		2			0	0	Foggy	M. Juher Mercadier.
Tours	30.17	766.2	30.36	771.2	45.3	7.4	83	SW			1		10		SW	0.024	0.6	Drizzling	Cousin-Marquet.
Versailles, Observatory	29.74	755.3	30.23	767.8	49.3	9.6	95	W			1					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.63	752.6	30.37	771.4	42.8	6	92	SE			1		10		S	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	74.1	23.4										0.31	8.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.16	766.0	30.18	766.6	28.2	— 2.1	80	Calm	0	0			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.5	30.02	762.4	42.4	5.8	94	W			4		10n	W		0.091	2.3	Raining	Prof. Dr. Hoh.
Berlin	29.59	751.6	29.77	756.1	41.0	5.0	92	SW			1		10			0.067	1.7	Rainy	Prof. Dr. Arndt.
Breslau	29.34	745.2	29.87	758.6	37.0	2.8	96	SSW			3		10					Rainy	Royal University Obs'y.
Carlsruhe	29.71	754.7	30.15	765.8	45.0	7.2	87	SW			8		10	SW		0.169	4.3	Raining	Albert Senz.
Cassel	29.30	744.1	29.90	759.5	41.4	5.2	97	SSW			2		10	SW		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel
Frankfort on the Main	29.74	755.5	30.13	765.3	46.4	8.0	77	SSW			2		10			0.488	12.4		Physical Society.
Friedrichshafen	28.81	731.7	30.28	769.2	43.9	6.6	83	WSW			7		10	W		0.118	3.0	Light rain	Chief Telegrapher Wilhelm.
Hamburg	29.69	754.1	29.76	755.9	42.4	5.8	100	W			4		10			0.098	2.5	Rain & fog	Dr. Reinhold Kleeman.
Kiel	29.69	754.2	29.71	754.6	40.3	4.6	98	WSW			4		10			0.032	0.81		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.73	755.2	29.82	757.4	33.4	0.8	86	SW			2		10			0.012	0.3	Snowing	Prof. E. Luther.
Köslin			29.83	757.6	33.4	0.8		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.46	748.3	29.89	759.3	40.1	4.5	96	SW			2		10			0.748	19.0	Rainy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.59	751.5	29.81	757.2	43.0	6.1	95	SW			2		10ks	SW		0.197	5.0	Light rain	Dr. Assmann.
Memel	29.72	754.9	29.77	756.2	36.3	2.4	91	NW			2		10k						Reinbrecht & Issermann.
Munich (München)	28.29	718.5	30.16	766.0	40.6	4.8	82	W			7		10	W		0.217	5.5	Rainy	Dr. C. Lang.
Neufahrwasser	29.84	757.9	29.85	758.3	34.3	1.3	83	W			1		7			0	0		A. Lothes.
Neustadt (Palatinate)	29.57	751.1	30.10	764.5	48.0	8.9	83	W			7		9	W		0.08	2.	Light rain	Reallehrer Dicknether.
Posen	29.54	750.2	29.84	757.8	34.3	1.3	94	S			1		10+			0.185	4.7		Prof. Dr. Magener.
Strassburg (in Alsace)	29.67	753.7	30.24	768.1	45.7	7.6	98	SW			3		10	SW				Raining	Imp. University Observatory.
Stuttgart	29.15	740.4	30.11	764.8	45.5	7.5	86	SW			2		10			0.110	2.8	Raining	Prof. Dr. Schoder.
Thorn	29.74	755.5	29.93	760.3	32.9	0.5	88	Calm			0		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.59	726.2	30.17	766.4	40.3	4.6	96	W	6.7	3.0			10		W	0.126	3.2	Raining	Reallehrer J. Hopfner.
Wustrow	29.72	754.9	29.74	755.5	33.8	1.0	100	SE			2		10			0.256	6.5	Foggy	E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.84	757.8	30.23	767.8	57.0	13.9		W			2–0		0					Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurnachee	29.94	760.4	29.99	761.7	72.7	22.6	72	WSW	8	3.6			8	WNW		0	0	D. clouds	
Deesa	29.51	749.6	29.99	761.8	74.7	23.7	26	NW	6.8	3.0			1	NE		0	0	D. clouds	
Bombay	29.85	758.2	29.89	759.1	74.5	23.6	71	NNW	20	8.9			5	NW	N	0	0	D. clouds	
Poona (Yarrowda)	28.02	711.7	29.88	758.8	79.5	26.4	17	SE	6	2.7			4			0	0	D. clouds	
Belgaum	27.34	694.4	29.89	759.3	73.3	22.9	24	NNE	5	2.2			2	SE		0	0	D. clouds	
Lahore	29.25	742.9	30.04	762.9	56.6	13.7	63	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	29.08	738.5	30.02	762.4	60.0	15.6	65	Calm	0.6	0.3			0			0	0	Blue sky	
Agra	29.43	747.5	30.02	762.6	60.3	15.7	38	N	1.7	0.8			0			0	0		
Nagpur	28.84	732.5	29.90	759.6	69.5	20.8	34	Calm	1.8	0.8			0			0	0	Blue sky	
Jubbulpore	28.54	725.0	29.96	760.9	64.1	17.8	38	NE	1.8	0.8			0			0	0	Blue sky	
Lucknow	29.60	751.9	30.00	761.9	63.3	17.4	55	Calm	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.67	753.6	30.00	762.0	57.7	14.3	76	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.77	756.0	29.96	760.8	66.4	19.1	61	Calm	0.7	0.3			4		W	0	0	D. clouds	
Hazaribagh	27.84	707.9	29.92	760.0	59.8	15.4	60	NW	3.9	1.7			9			0	0		
Cuttack	29.84	757.8	29.92	760.0	64.9	18.3	66	Calm	1.4	0.6			0			0	0	Blue sky	
Calcutta (Alipore)	29.90	759.4	29.92	760.0	60.8	16.6	77	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.54	760.3	29.94	760.5	66.0	18.9	57	E	9.1	4.1			0			0	0	Blue sky	
Chittagong	29.81	757.2	29.91	759.6	69.8	21.0	80	Calm					1			0	0	Misty	
Sibsagar	29.63	752.5	29.98	761.4	61.7	16.5	83	ENE	1.7	0.8			0			0	0	Blue sky	

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

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.78	756.4	30.21	767.4	38.1	3.4	76	NE	0.7	0.3			10			0	0		Prof. Giovanni Clodig.
Milan	29.64	752.8	30.19	766.7	36.5	2.5	52	SW			4		4	NW		0	0		Prof. Schiaparelli.
Padua	30.10	764.6	30.22	767.6	33.4	0.8	85	N	1.3	0.6			9	NNW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.30	744.1	30.24	768.1	28.0	— 2.2	83	NNE	0.7	0.3			6			0	0		Prof. P. F. Denza.
Genoa	30.05	763.2	30.25	768.4	51.8	11.0	73	SE	3.1	1.4			10	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	28.22	716.9	30.22	767.6	44.4	6.9	57	SE			2		9	NE		0	0		Prof. D. C. Bruno.
Pesaro	30.16	766.1	30.21	767.3	37.4	3.0	80	N	13.7	6.1			10			0	0		Prof. Luigi Guidi.
Florence	30.00	762.0	30.28	769.0	43.9	6.6	65	E			2		3			0	0		Cav. F. Meucci.
Leghorn	30.17	766.2	30.26	768.5	51.6	10.9	69	NE	1.8	0.8			5	SE		0	0		Prof. P. Monte.
Rome	30.08	764.1	30.27	768.8	54.1	12.3	66	SSW	4.9	2.2			4			0	0		Prof. P. S. Ferrari
Lecce	30.01	762.2	30.27	768.9	54.3	12.4	53	WNW	1.3	0.6			2	W		0	0		Prof. C. De Giorgi
Cosenza	29.36	745.8	30.28	769.2	50.2	10.1	73	SW	0	0			3			0	0		Prof. D. Conti.
Cagliari	30.00	762.1	30.21	767.2	55.4	13.0	67	NW			4		2	NE		0	0		Prof. A. Pacinotti.
Palermo	30.02	762.4	30.28	769.0	55.0	12.8	54	Calm	0	0			5			0	0		Prof. G. Ciacciatore.
Syracuse	30.20	767.1	30.25	768.3	55.4	13.0	61	NE	2.5	1.1			10	S		0	0		Prof. V. G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.72	755.0	30.26	768 7	51.7	10.9	72	SW	0	0			9			0.031	0.8		Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.01	762.2	30.03	762.7	37.2	2.9	88	NNE	8.2	3.7			1sick			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.85	758.2	30.06	763.5	41.1	5.1	83	NNW	0.4	0.2			10s			0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.83	757.7	29.90	759.4	35.8	2.1	77	WNW	4.0	1.8		0	0			0	0	Clear	The Staff.
Wakayama	29.98	761.5	30.04	763.0	37.1	2.8	82	NE	4.5	2.0			0			0	0	Clear	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	26.10	637.6	30.31	769.8	41.9	5.5	56	SW			1	7k	0			0	0	Cloudy	Prof. L. Perez.
Leon	24.50	622.3	30.34	770.6	48 7	9.3	84	NW			1	1c	1k	SE		0	0	Clear	Prof. M. Leal.
Mazatlan	29.78	756.5	30.05	763.2	59.5	15.3	79	NW			1	2cs	0			0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.11	586.9	30.30	769.7	42.8	6.0	75	Calm	0	0		0	0			0	0	Fine	The Staff.
Morelia	24.15	613.3			58.1	14.5	65	SE			3	4c	1k	SE	ESE	0.004	0.9	Blue sky	M. Fena, M. D.
Pabellon (Aguascalientes)					47.8	8.8	78	SE	0	0	1	6ks	0	S		0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.62	597.3	30.54	775.6	39.4	4.1	47	Calm				0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.6	30.44	773.1	45.3	7.4	67	E			1	9	0	E		0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam																			Prof. M. M. Châzaro.
Vera-Cruz	30.07	763.8	30.10	764.5	70.7	21.5	82	Calm	0	0		8k	0			0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.59	573.7	30.31	769.8	50.2	10.1	67	SW			3	9ck	0	SW		Inap.	Inap.	Very cloudy	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.0 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud columns.

NETHERLANDS SERIES.

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

Flushing	29.98	761.5	29.98	761.5	43.2	6.2		WSW			6					0.307	7.8		
Groningen	29.75	755.6	29.80	757.0	46.4	8.0		W			8					0 421	10.7		
Helder	29.83	757.6	29.83	757.6	43.0	6.1		SW			4					0.047	1.2		
Hellevoetsluis	29.93	760.2	29.93	760.2	42.3	5.7	95	WSW			4					0.197	5.0		
Utrecht	29.88	759.0	29.93	760.2	47.3	8.5	94	WSW			5		10			0.134	3.4	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.33	745.0	29.39	746.4	39.2	4.0	80	S	19.7	8.8	.....	.....	10	.....	.....	1.102	28.0	Raining	
Brönö	29.25	743.0	29.29	740.0	38.3	3.5	82	SSW	18	8	.....	.....	9	.....	.....	0	0	.....	
Christiana	29.49	749.0	29.05	753.0	18.0	— 7.8	94	ENE	4	2	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.19	741.3	29.23	742.4	32.2	0.1	98	SW	4	2	.....	.....	10	.....	.....	0.201	5.1	Snowing	

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.51	749.5	30.54	776.0	47.8	8.8	71	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.44	773.2	30.53	775.4	65.1	18.4	53	SE	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.26	768.5	30.63	778.1	46.8	8.2	67	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.30	769.7	30.37	771.5	63.0	17.2	81	SW	22.4	10.0	.....	.....	3	.....	.....	0	0	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0–9	Sea or swell: Direction form—			
Bartholomew Dias					A. G. da Silva Costa, Com'd't.
D. Fernando					A. [illegible] Sande, Com'd't.
Duque da Terceira					J. C. M. Cabrate, 1st Lt.
Mindello					J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos					H. de C. C. e Athayde.
Rio Duro					J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.					
Porto Praya, Cape Verd, Ids			ENE	2	NNE D. clouds. T. Pereira, 2nd Lieut.
Sà da Bandeira					F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello,					
St. Paul de Loando, Gulf of Guinea.			W		D. clouds. F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes,					
Macao, China			N	3	N Overcast. J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.63	752.5	29.65	753.0	7.3	—13.7	92	ESE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.19	766.7	30.10	764.6	23.2	— 4.9	88	Calm	0	0	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds...	Capt. Wisganow.
Barnaul	29.71	754.7	30.26	768.5	14.7	— 9.6	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.51	749.6	29.76	756.0	31.5	— 0.3	92	WSW	4	2	.....	.....	9kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.81	731.7	29.88	758.9	— 5.8	—20.7	86	N	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Irkutsk																			Physical Cabinet.
Kasan	29.69	754.2	30.00	762.0	— 7.4	—21.9	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kertch																			Physical Cabinet.
Kieff	29.06	738.0	29.72	754.8	31.8	— 0.1	87	NW	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	Cand. Fatjanow.
Krotkowo*	29.50	749.3	30.04	763.0	— 9.8	—23.2	78	NW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.63	752.6	29.84	758.0	29.1	— 1.6	84	SE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.19	741.3	29.76	756.0	23.7	— 4.6	84	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	27.60	701.0	30.10	764.5	4.3	—15.4	62	NW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.60	751.7	29.67	753.5	30.2	— 1.0	98	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Foggy	Kurdakof.
Nukuss	30.00	762.1	30.26	768.5	25.3	— 3.7	80	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	
Orenberg																			
Pekin (China)	30.03	762.7	30.17	766.3	19.0	— 7.2	43	NW	31	14	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.69	754.1	29.71	754.5	29.1	— 1.6	84	W	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.47	723.1	30.13	765.2	29.8	— 1.2	100	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.73	729.8	30.22	767.5	36.1	2.3	59	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	29.46	748.2	29.90	759.4	31.1	— 0.5	92	W	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.37	746.0	29.81	757.1	31.5	— 0.3	90	W	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	30.38	771.6	30.67	778.9	— 3.8	—19.9	84	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.28	769.1	30.39	771.8	50.5	10.3	56	W	2.1	0.94	.....	.....	1	.....	.....	0	0	Clear.	Antonio Rave, Director
Bilbao, Met. Obs'y	30.50	774.6	30.56	776.1	49.5	9.7	60	SE	2.2	0.98	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.55	699.8	.....	.....	25.9	— 3.4	92	W	0.5	0.21	.....	0	0	.....	.....	0	0	Dense fog.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.26	717.9	30.63	777.9	38.5	3.6	72	S	2.2	1.00	.....	1	0	S	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.36	771.2	30.52	775.1	56.1	13.4	63	WSW	3.9	1.75	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.62	752.3	30.54	775.8	50.7	10.4	76	SE	9.4	4.2	.....	.....	6	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.14	765.5	30.20	767.2	69.7	20.9	88	ESE	1.1	0.5	.....	0	9k	.....	ENE	0.020	0.5	Cloudy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.85	758.1	29.90	759.5	79.0	26.1	77	ENE	0	0	.....	.....	10kn	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.49	774.3	30.59	776.9	57.6	14.2	55	ENE	4.0	1.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.1	29.98	761.4	72.3	22.4	97	W	0	0	.....	5kn	4kn	W	W	0.354	9.00	Cloudy	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.43	747.6	29.47	748.6	— 2.6	—19.2	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy.....	
Umea	29.47	748.4	29.52	749.7	— 2.2	—19.0	88	N	.....	.....	2	.....	0	.....	.....	0.106	2.7	.....	
Hernosand	29.47	748.4	29.52	749.7	0.3	—12.6	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Stockholm	29.52	749.9	29.70	754.4	28.8	— 1.8	96	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.64	752.9	29.70	754.4	35.2	1.8	96	SW	.....	.....	2	.....	7	.....	.....	0.075	1.9	.....	
Sub-Series.																			
Upsala	29.56	750.9	29.65	753.1	28.4	— 2.0	98	SSW	5.8	2.6	.....	.....	9	.....	WSW	0.126	3.20	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.97	735.8	30.43	773.0	41.4	5.2	93	NNW	.....	.....	1	.....	10	.....	.....	0.213	5.4	Covered	The Observatory.
Zurich	28.65	727.8	30.33	770.4	42.1	5.6	88	W	.....	.....	2	.....	10	.....	.....	0.488	12.4	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.1 mm.; Thermometer, +3.8 Cent.; Relative Humidity, +12 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.17	766.2	50.5	10.3	74	SW	8	3.5	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.25	768.3	55.0	12.8	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.26	768.5	55.0	12.8	75	S	.....	.....	3	.....	10n	.....	SW	0	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	29.95	760.7	29.96	761.0	— 9.5	—23.1	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	29.92	760.0	29.99	761.7	— 5.6	—20.9	96	Calm	0	0	.....	0	0	.....	.....	0.15	3.8	Clear.	G. A. Blair.
Charlottetown, P. E. Island	29.72	754.9	29.76	755.9	17.5	— 8.1	100	W	10	4.5	.....	.....	10n	.....	.....	1.10	27.9	Heavy snow	H. J. Cundall, C. E.
Cornwall, Ontario	30.11	764.8	30.32	770.1	4.7	—15.2	97	N	.....	.....	1	7cs	3s	W	.....	0.40	10.2	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.84	757.9	30.03	762.7	— 8.0	—22.2	.....	W	1	0.4	.....	0	1s	.....	.....	0.10	2.5	Clear.	H. A. Johnson.
Father Point, Quebec	30.00	763.5	30.08	764.0	— 6.2	—21.2	100	SW	10.0	4.5	.....	.....	10n	.....	.....	0.08	2.0	Clearing....	J. McWilliams.
Fredericton, N. B	29.98	761.5	30.06	763.5	2.1	—16.6	77	NW	12	5.4	.....	0	0	.....	.....	0.27	6.9	Clear.	Prof. Harrison.
Fort Garry, Manitoba	28.42	721.9	29.31	744.5	17.0	— 8.3	83	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.17	740.9	30.36	771.1	21	— 6.1	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	29.64	752.8	29.78	756.4	20.0	— 6.7	92	N	15	6.7	.....	0	7ks	.....	.....	1.16	29.5	Fair.....	A. Allison.
Hamilton, Ontario	30.00	762.0	30.39	771.9	27.7	— 2.4	93	S	.....	.....	1	7cs	0	E	.....	0.10	2.5	Cloudy..	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.96	761.0	30.32	770.1	24.0	— 4.4	87	W	3	1.3	.....	10k	0	W	.....	0.20	5.1	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.60	751.8	29.64	752.8	20.2	— 6.6	87	NE	5	2.2	.....	.....	10n	.....	.....	0.90	22.9	Snowing.....	C. H. Rigby.
Montreal, Quebec	30.06	763.5	30.28	769.1	5.5	—14.7	70	W	12	5.4	.....	1cs?	0	.....	.....	0.27	6.9	Cloudy?	C. H. McLeod, C. E.
Moose Factory, Ontario	29.95	760.7	29.99	761.7	— 5.7	—20.9	96	SW	.....	.....	2	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nrson.
Norwood	29.53	750.0	30.27	768.8	25.0	— 3.9	100	E	6	2.7	.....	.....	10s	.....	.....	0	0	Overcast.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.51	749.5	30.25	768.3	25.0	— 3.9	94	W	2	0.9	.....	5k	5ks	SW	SW	0.16	4.1	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.52	749.8	30.32	770.1	26.3	— 3.2	75	S	.....	.....	2	.....	10n	.....	.....	0.40	10.2	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.65	753.1	30.40	772.1	24.0	— 4.4	87	SW	5	2.2	.....	5ck	0	SW	.....	0.05	1.3	Fair.....	H. Morgan.
Port Stanley, Ontario	29.68	753.9	30.38	771.6	20.7	— 6.3	.....	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
Quebec, Quebec	29.85	758.2	30.21	767.3	0.0	—17.8	70	NW	.....	.....	6	0	0	.....	.....	0.40	10.2	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	29.82	757.4	30.00	762.0	6	—14.4	100	NW	23	10.3	.....	0	0	.....	.....	0.38	9.7	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.53	750.0	30.28	769.1	29.0	— 1.7	91	SW	15	6.7	.....	.....	10ks	.....	.....	0.25	6.3	Overcast.....	K. Stewart.
Stratford, Ontario	28.99	736.3	30.36	771.1	23.0	— 5.0	85	SW	3.0	1.3	.....	.....	7s	.....	.....	0.10	2.5	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B	29.67	753.6	29.72	754.9	22.3	— 5.4	96	NE	8	1.3	.....	.....	10n	.....	.....	0.35	8.9	Heavy snow	T. C. Hill, C. E.
Toronto, Ontario	29.94	760.5	30.35	770.9	26.8	— 2.8	89	SW	10	4.5	.....	.....	10ks	.....	.....	0	0	Cloudy.....	Magnetic Observatory
Windsor, N. S	29.80	756.9	29.90	759.4	.....	.....	.....	W	4	1.8	.....	.....	10n	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A
Woodstock, Ontario	29.22	742.2	30.36	771.1	22.7	— 5.2	100	S	7	3.1	.....	.....	10s	.....	.....	0.01	0.3	Overcast.....	Prsfessor Wolverton.
Yarmouth, N. S	29.92	760.0	29.99	761.7	19.7	— 6.8	80	N	20	13.0	.....	0	6ks	.....	.....	0.40	10.2	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.84	757.9	30.11	764.8	10	—12.2	.....	W	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.72	754.9	24.8	— 4.0	.....	E	.....	.....	2	.....	10n	.....	.....	.....	.....	Snowing.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.08	764.0	30.32	770.1	31	— 0.6	79	NW	8	3.6	.....	.....	10s	.....	Calm	0.75	19.1	Cloudy.....	
Alpena, Michigan	29.54	750.3	30.24	768.1	20	— 6.7	70	SW	4	1.8	.....	.....	10s	.....	Calm	0.24	6.1	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.18	741.1	30.34	770.6	55	12.8	87	NW	8	3.6	.....	0	Sm'e	.....	Calm	0.04	1.0	Clear.	
Atlantic City, New Jersey	30.38	771.6	30.39	771.9	33	0.6	80	NW	5	2.2	.....	0	0	.....	.....	0.08	2.0	Clear.	
Augusta, Georgia	30.17	766.3	30.38	771.6	50	10.0	86	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog...	
Baltimore, Maryland	30.38	771.6	30.43	772.9	35	1.7	70	W	1	0.4	.....	0	0	.....	.....	0.07	1.8	Clear.	
Barnegat, New Jersey	30.35	770.9	30.38	771.6	33	0.6	84	NW	8	3.6	.....	0	0	.....	.....	0.17	4.3	Clear.	
Bismarck, Dakota	27.72	704.1	29.58	751.3	44	6.7	67	W	16	7.2	.....	10cs	0	W	.....	0	0	Cloudy.....	
Boerne, Texas	28.73	729.7	30.06	763.5	52	11.1	100	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy.....	
Boise City, Idaho	27.20	690.9	30.16	766.1	40	4.4	65	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boston, Massachusetts	30.09	764.3	30.26	768.6	23	— 5.0	86	W	2	0.9	.....	2c	5s	W	Calm	1.02	25.9	Fair...	
Brackettville, Texas	29.01	736.8	30.10	764.5	47	8.3	100	W	8	3.6	.....	.....	10n	.....	Calm	1.48	37.6	Light rain...	
Breckenridge, Minnesota	28.59	726.2	29.59	751.6	31	— 0.6	79	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	30.09	764.3	30.14	765.5	67	19.4	89	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.62	752.3	30.36	771.1	31	— 0.6	79	W	12	5.4	.....	2k	0	W	.....	0.19	4.8	Fair...	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.98	761.5	30.30	769.6	17	— 8.3	83	NE	6	2.7	.....	.....	10n	.....	NW	0.03	0.8	Light snow..	
Cairo, Illinois	30.04	763.0	30.46	773.7	36	2.2	80	SE	6	2.7	.....	.....	10s	.....	SE	0.12	3.0	Threatening	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.35	770.9	30.36	771.1	52	11.1	79	NE	20	8.9	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy.....	
Cape Henry, Virginia	30.40	772.1	30.42	772.7	46	7.8	62	N	14	6.3	.....	2cs	5ks	SW	Calm	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.23	767.8	30.35	770.9	54	12.2	93	NE	23	10.3	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Cape May, New Jersey	30.37	771.4	30.40	772.1	37	2.8	71	NW	20	8.9	.....	0	0	.....	.....	0.02	0.5	Clear.	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	30.31	769.9	30.34	770.6	64	17.8	94	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	30.29	769.4	30.35	770.9	56	13.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.47	748.5	30.31	769.9	45	7.2	100	NE	4	1.8	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Chattanooga, Tennessee	29.56	750.8	30.39	771.9	52	11.1	86	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	42	5.6	19	SW	15	6.7	.....	5k	0	NW	.....	0	0	Fair...	
Chicago, Illinois	29.57	751.1	30.31	769.9	28	— 2.2	77	SW	12	5.4	.....	Haze	0	.....	.....	0.01	0.3	Hazy.....	
Cincinnati, Ohio	29.79	756.7	30.49	774.4	34	1.1	79	S	3	1.3	.....	1cs	0	Calm	.....	0.19	4.8	Clear.	
Cleveland, Ohio	29.66	753.4	30.34	770.6	27	— 2.8	88	S	4	1.8	.....	0	1s	.....	Calm	0.15	3.8	Clear.	
Coleman City, Texas	28.45	722.6	30.20	767.1	39	3.9	91	N	8	3.6	.....	.....	10s	.....	Calm	0.31	7.9	Threatening	
Columbus, Ohio	29.56	750.8	30.46	773.7	31	— 0.6	69	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Concho, Texas	28.35	720.1	30.10	764.5	40	4.4	100	Calm	.....	.....	0	.....	10s	.....	Calm	0.36	9.1	Cloudy.....	
Corsicana, Texas	29.85	758.2	30.34	770.6	44	6.7	84	N	3	1.3	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	
Davenport, Iowa	29.58	751.3	30.26	768.6	25	— 3.9	75	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	38	3.3	81	S	.....	.....	2	.....	10s	.....	W	0.03	0.8	Cloudy.....	
Deadwood, Dakota	25.12	638.0	.....	.....	43	6.1	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Decatur, Texas	29.18	741.1	30.40	772.1	42	5.6	66	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Denison, Texas	29.51	749.5	30.35	770.9	35	1.7	90	N	9	4.0	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
Denver, Colorado	24.72	627.9	29.94	760.5	33	0.6	51	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.19	741.4	30.11	764.8	30	— 1.1	78	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.65	753.1	30.38	771.6	22	— 5.6	86	SW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Dodge City, Kansas	27.49	698.2	29.88	758.9	30	— 1.1	78	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair...	
Dubuque, Iowa	29.44	747.8	30.19	766.8	23	— 5.0	73	S	7	3.1	.....	0	1s	.....	Calm	0	0	Clear.	
Duluth, Minnesota	29.00	736.6	29.70	754.4	27	— 2.8	88	SW	3	1.3	.....	2k	0	SW	.....	0	0	Fair..	
Eagle Pass, Texas	29.45	748.0	30.21	767.3	47	8.3	100	NW	13	5.8	.....	.....	10n	.....	Calm	1.96	49.8	Light rain...	
Eastport, Maine	29.95	760.7	30.02	762.5	9	—12.8	78	NW	18	8.0	.....	0	0	.....	.....	0.47	11.9	Clear.	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	72	22.2	90	E	.....	.....	1	.....	10s	.....	E	0.60	15.2	Cloudy.....	
Erie, Pennsylvania	29.65	753.1	30.41	772.4	33	0.6	70	SW	5	2.2	.....	.....	10ks	.....	NW	0.23	5.8	Cloudy.....	
Escanaba, Michigan	29.31	744.5	30.00	762.0	18	— 7.8	68	SW	14	6.3	.....	5c	0	SW	.....	0.01	0.3	Fair...	
Florence, Arizona	28.49	723.6	30.09	764.3	47	8.3	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.42	696.5	29.20	741.7	42	5.6	83	SW	27	12.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.50	673.1	.....	.....	42	5.6	75	W	26	11.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Fort Davis, Texas	25.30	642.6	30.26	768.6	35	1.7	90	E	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Fort Gibson, Indian Ter	29.75	755.6	30.32	770.1	34	1.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	36	2.2	63	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.98	736.1	30.31	769.9	40	4.4	81	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Fort Keogh, Montana	26.90	683.2	.....	.....	32	0.0	69	S	4	1.8	.....	0	8ks	.....	Calm	0	0	Fair...	
Fort McKavett, Texas	27.92	709.2	29.91	759.7	42	5.6	91	E	3	1.3	.....	.....	Fog	.....	.....	0.40	10.2	Foggy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.05	737.9	30.22	767.6	33	0.6	100	Calm	0	0	.....	.....	10n	.....	Calm	0.09	2.3	Drizzling.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	32	0.0	79	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.34	719.8	29.86	758.4	50	10.0	93	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.19	766.8	30.24	768.1	63	17.2	94	E	10	4.5	.....	.....	10ks	.....	SE	0.03	0.8	Cloudy.....	
Graham, Texas	29.19	741.4	30.30	769.6	35	1.7	100	N	2	0.9	.....	.....	10s	.....	Calm	1.23	31.2	Cloudy.....	
Grand Haven, Michigan	29.57	751.1	30.26	768.6	30	— 1.1	68	S	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.57	751.1	30.40	772.1	34	1.1	100	E	4	1.8	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Indianola, Texas	30.18	766.6	30.40	772.1	30	— 1.1	79	S	5	2.2	.....	.....	10s	.....	S	1.13	28.7	Cloudy.....	
Jacksboro, Texas	30.18	766.6	30.21	767.3	61	16.1	100	E	15	6.7	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy.....	
Jacksonville, Florida	30.13	739.9	30.31	769.9	40	4.4	82	N	4	1.8	.....	.....	10s	.....	N	0.10	2.5	Cloudy.....	
Keokuk, Iowa	30.33	770.4	30.36	771.1	56	13.3	87	NE	1	0.4	.....	0	Fog	.....	.....	0	0	Clear.	
Key West, Florida	29.60	751.8	30.26	768.6	28	— 2.2	83	S	8	3.6	.....	5cs	2s	W	S	0	0	Fair...	
Kittyhawk, North Carolina	30.19	766.8	30.23	767.8	72	22.2	85	NE	16	7.2	.....	2k	0	NE	.....	0	0	Fair...	
Knoxville, Tennessee	30.38	771.6	30.41	772.4	49	9.4	78	NE	28	12.5	.....	2cs	Haze	W	Calm	0	0	Fair...	
La Crosse, Wisconsin	29.39	746.5	30.43	772.9	46	7.8	84	NE	5	2.2	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.....	
La Mesilla, New Mexico	29.25	742.9	30.02	762.5	29	— 1.7	67	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	26.18	665.0	30.33	770.4	42	5.6	83	N	3	1.3	.....	.....	10s	.....	Calm	0.89	22.6	Cloudy.....	
Leavenworth, Kansas	29.70	754.4	30.03	762.7	68	20.0	84	SE	6	2.7	.....	5k	0	SW	.....	0	0	Fair...	
Lewiston, Idaho	29.34	745.2	30.24	768.1	26	— 3.3	63	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Little Rock, Arkansas	29.93	760.2	30.30	769.6	46	7.8	92	NE	4	1.8	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
Los Angeles, California	29.75	755.6	30.10	764.5	39.0	3.9	73	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.86	758.4	30.44	773.2	39	3.9	73	SE	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Lynchburg, Virginia	29.71	754.6	30.42	772.7	43	6.1	75	NW	1	0.4	.....	5cs	0	W	.....	0	0	Fair...	
Madison, Wisconsin	29.13	739.9	30.17	766.3	26	— 3.3	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.09	738.9	29.81	757.2	28	— 2.2	77	SW	20	8.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Mason, Texas	28.67	725.7	30.39	771.9	45	7.2	92	E	2	0.9	.....	.....	Fog	.....	S	0.11	2.8	Foggy	
Memphis, Tennessee	30.06	763.5	30.41	772.4	42	5.6	91	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	29.44	747.8	30.21	767.3	25	— 3.9	75	SW	11	4.9	.....	0	0	.....	.....	0.01	0.3	Clear.	
Mobile, Alabama	30.32	770.1	30.36	771.1	53	11.7	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	30.15	765.8	30.39	771.9	52	11.1	96	S	1	0.4	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Morgantown, West Virginia	29.42	747.3	30.46	773 7	39	3.9	73	SW	6	2.7	.....	.....	10ks	.....	SW	0.22	5.6	Cloudy	
Mt. Washington, N. H.	23.36	593.3	29.72	754.9	— 2	—18.9	100	NW	72	32.2	.....	.....	Fog	.....	NW	0.25	6.3	Foggy	
Nashville, Tennessee	29.80	759.2	30.45	773.4	42	5.6	88	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	30.18	766.6	30.31	769.9	32	0.0	79	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
New London, Connecticut	30.25	768.3	30.30	769.6	32	0.0	69	W	7	3.1	.....	0k	1s	NW	NW	0.52	13.2	Fair	
New Orleans, Louisiana	30.26	768.6	30.33	770.4	60	15.6	94	E	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Newport, Rhode Island	30.21	767.3	30.27	768.8	32	0.0	69	SW	14	6.3	.....	2c	2s	NW	Calm	0.48	12.2	Fair	
New River, North Carolina	.....	.....	.....	.....	54	12.2	100	N	.....	.....	1	.....	10s	.....	N	.....	.....	Cloudy	
New York, New York	30.16	766.1	30.35	770.9	34	1.1	61	NW	4	1.8	.....	3c	0	Calm	.....	0.42	10.7	Fair	
Norfolk, Virginia	30.34	770.6	30.40	772.1	44	6.7	68	N	9	4.0	.....	5c	Haze	Calm	Calm	0	0	Fair	
North Platte, Nebraska	27.00	685.8	29.73	755.1	16	— 8.9	66	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.90	759.4	30.03	762.7	34.0	1.1	95	S	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Omaha, Nebraska	28.85	732.8	29.99	761.7	30	— 1.1	78	S	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	30.00	762.0	30.34	770.6	34	1.1	70	N	6	2.7	.....	.....	10ks	.....	NW	0.42	10.7	Cloudy	
Pembina, Dakota	28.43	722.1	29.26	743.2	32	0.0	100	S	11	4.9	.....	0	5s	.....	Calm	0	0	Fair	
Pensacola, Florida	30.35	770.9	30.38	771.6	56	13.3	100	NE	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	30.34	770.6	30.40	772.1	36	1.7	80	W	6	2.7	.....	0	Fog	.....	Calm	0.04	1.0	Clear	
Phœnix, Arizona	28.87	733.3	30.72	780.3	44	6.7	68	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.74	450.6	29.95	760.7	18	—10.6	44	W	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.54	750.3	30.41	772.4	40	4.4	91	N	.....	.....	.....	.....	10n	.....	N	.....	.....	Light rain	
Ploche, Nevada	.....	.....	.....	.....	20	— 6.7	56	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.60	751.8	30.46	773.7	33	0.6	79	W	6	2.7	.....	0	5s	.....	W	0.51	13.0	Cloudy	
Port Huron, Michigan	29.63	752.6	30.35	770.9	21	— 6.1	86	SW	11	4.9	.....	0	0	.....	.....	0.08	2.0	Clear	
Portland, Maine	30.08	764.0	30.14	765.5	19	— 7.2	54	NW	4	1.8	.....	2k	0	W	.....	0.50	12.7	Clear	
Portland, Oregon	30.01	762.2	30.08	764.0	41	5.0	96	NW	2	0.9	.....	.....	Fog	.....	.....	1.24	31.5	Foggy	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	87	NE	25	11.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Prescott, Arizona	24.86	631.4	30.22	767.6	18	— 7.8	84	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.28	769.1	30.30	769.6	64	17.8	94	N	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Red Bluff, California	29.93	760.2	30.32	770.1	31	— 0.6	89	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.94	760.5	30.16	766.1	69	20.6	90	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Rochester, New York	29.68	753.9	30.34	770.6	32	0.0	79	W	10	4.5	.....	.....	10s	.....	W	0.25	6.3	Cloudy	
Roseburg, Oregon	29.50	749.3	30.08	764.0	44	6.7	100	Calm	0	0	.....	.....	10n	.....	Calm	1.04	26.4	Light rain	
Sacramento, California	30.20	767.1	30.28	769.1	31	— 0.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.79	756.7	30.40	772.1	30	— 1.1	89	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
St. Paul, Minnesota	28.92	734.6	29.77	756.1	32	0.0	79	S	19	8.5	.....	5c	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	25.82	655.8	30.15	765.8	9	—12.8	57	Calm	0	0	.....	7c	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29.53	750.0	30.12	765.0	53	11.7	100	NE	6	2.7	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
San Diego, California	30.04	763.0	30.11	764.8	49	4.4	73	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.71	754.6	30.43	772.9	29	— 1.7	78	SW	7	3.1	.....	0	0	.....	.....	0.13	3.3	Clear	
Sandy Hook, New Jersey	30.33	770.4	30.37	771.4	35	1.7	70	W	8	3.6	.....	5ck	0	W	.....	0.39	9.9	Fair	
San Francisco, California	30.28	767.8	30.30	769.6	42	5.6	83	N	6	2.7	.....	8k	0	NW	.....	0	0	Fair	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	17	— 8.3	51	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.28	769.1	30.38	771.6	59	15.0	58	SW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.08	764.0	30.30	769.6	60	15.6	88	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.30	769.6	30.33	770.4	54	12.2	100	W	7	3.1	.....	.....	Fog	.....	.....	0	0	Dense fog	
Socorro, New Mexico	25.55	649.0	29.62	752.3	34	1.1	90	N	4	1.8	.....	0	0	.....	.....	0.16	4.1	Clear	
Springfield, Illinois	29.68	753.9	30.40	772.1	29	— 1.7	89	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Springfield, Massachusetts	30.15	765.8	30.28	769.1	33	0.6	70	W	8	3.6	.....	0	8ks	.....	W	0.40	10.2	Cloudy	
Stockton, Texas	27.21	691.1	30.21	767.3	40	4.4	25	SW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Thatcher's Island, Mass.	30.13	765.4	30.18	766.6	24	— 4.4	61	W	22	9.8	.....	5ck	0	W	.....	0.47	11.9	Fair	
Toledo, Ohio	29.66	753.4	30.40	772.1	26	— 3.3	63	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.67	753.6	30.17	766.3	40.0	4.4	73	W	16	7.2	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Uvalde, Texas	29.24	742.7	30.04	763.0	69	20.6	90	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Vicksburg, Mississippi	30.10	764.5	30.36	771.1	55	12.8	100	NE	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Virginia City, Montana	24.08	611.6	29.56	750.8	34	1.1	52	SW	11	4.9	.....	Haze	0	SW	.....	0	0	Hazy	
Visalia, California	29.87	758.7	30.27	768.8	33	0.6	89	S	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.31	769.9	30.43	772.9	34	1.1	79	N	2	0.9	.....	2cs	Sm'e	W	.....	0.08	2.0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	39	3.9	73	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.26	768.6	30.34	770.6	50	10.0	100	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	16	— 8.9	83	E	4	1.8	.....	1ck	0	NW	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.22	767.6	30.26	768.6	34	1.1	61	NW	16	7.2	.....	0	8ks	.....	NW	0.12	3.0	Cloudy	
Yankton, Dakota	28.54	724.9	29 87	758.7	31	— 0.6	79	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.92	760.0	30.07	763.8	51	10.6	34	N	15	6.7	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.11	764.8	30.16	766.1	73	22.8	76	Calm	0	0	.....	0	8ks	.....	E	0.02	0.5	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	73	22.8	82	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	78	25.6	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.95	760.7	78	25.6	86	NE	.....	.....	2	4c	3s	E	.....	0.230	5.84	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.08	764.0	30.11	764.8	74	23.3	76	NNE	10.8	4.8	.....	0	4ks	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.08	761.5	30.03	762.7	—23.0	—30.6	.....	NNW	10	4.5	.....	0	0	.....	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,488 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1 040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.0 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.36‡	771.1‡	.....	.....	60	15.6	100	N	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New Hampshire, Yokohama, Japan	29.89‡	759.2‡	.....	.....	41	5.0	60	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.29‡	769.4‡	.....	.....	46	7.8	84	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Arica, Peru	29.87‡	758.7‡	.....	.....	67	19.4	89	SSW	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.	30.33‡	770.4‡	.....	.....	34	1.1	90	WSW	4	1.8	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, Fort de France, Martinique	29.94‡	760.5‡	.....	.....	77	25 0	95	ENE	.....	.....	1	.....	8	.....	ENE	.....	.....	.....	.....	Cloudy.....	
Enterprise, Constantinople, Turkey	30.18‡	766.6‡	.....	.....	51	10.6	86	SW	.....	.....	2	.....	3	.....	S	.....	.....	Mod'ate	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.42‡	772.7‡	.....	.....	46	7.8	56	NE	9.6	4.3	.....	.....	8	.....	NW	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.28‡	769.1‡	.....	.....	39	3.9	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Kearsarge, Balize, British Honduras.	30.04‡	763.0‡	.....	.....	78	25.6	82	NE	.....	.....	3–5	.....	5	.....	NE	.....	.....	Mod'te long	NE	Fair.....	
Lackawana, Honolulu, Sandwich Id's†	29.94‡	760.5‡	.....	.....	73	22.8	81	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Marion, N. 22° 10′, W. 45° 23′.....	30.17‡	766.3‡	.....	.....	74	23.3	76	ESE	.....	.....	4	.....	5	.....	SE	Light	Light	Long	SE	Fair.....	
Michigan, Erie, Pa.....	29.86‡	758.4‡	.....	.....	33	0.6	61	SW	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China.....	30.22‡	767.6‡	.....	.....	32	0.0	89	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30.35‡	770.9‡	.....	.....	59	15.0	100	NW	2	0.9	..	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Nipsic, Hampton Roads, Va....	30.42‡	772.7‡	.....	.....	48	8.9	67	NNE	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru ....†	29.90‡	759.4‡	.....	.....	70	21.1	85	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Mod'ate	W	Hazy.....	
Palos, Tientsin, China.....	30.22‡	767.6‡	.....	.....	24	— 4.4	87	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.....	30.40‡	772.1‡	.....	.....	34	1.1	79	NE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	68	20.0	95	SSE	.....	.....	1–2	.....	8	.....	.....	.....	.....	Smooth	.....	D. clouds ...	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.32‡	770.1‡	.....	.....	37	2.8	63	W	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Fair.....	
Quinnebaug, Villafranca, France.....	30.21‡	767.3‡	.....	.....	55	12.8	56	SE	.....	.....	2	.....	8	.....	N	.....	.....	.....	.....	Fair.....	
Ranger, Honolulu, Sandwich Ids..	29.96‡	761.0‡	.....	.....	74	23.3	81	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Richmond, Lymoon Pass Hong-Kong, China..	30.16‡	766.1‡	.....	.....	52	11.1	60	N	.....	.....	5	.....	10	.....	.....	.....	.....	Mod'ate	N	Cloudy.....	
Rio Bravo, Brownsville, Texas....†	30.27‡	763.8‡	.....	.....	65	18.3	100	SE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Santee. Annapolis, Md	30.42‡	772.7‡	.....	.....	36	2.2	80	NW	.....	.....	1	.....	2	.....	N;W	0.03	0.8	.....	.....	Clear.....	
Shenandoah, Montivideo, Uruguay....	29.63‡	752.6‡	.....	.....	70	21.1	90	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'ate	NW	Raining	
St. Louis, League Island, Pa.....	30.36‡	771.1‡	.....	.....	31	— 0.6	.....	NW	4	1.8	.....	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Tennessee, Brooklyn, N. Y.....	30.26‡	768.6‡	.....	.....	33	0.6	79	WNW	5	2.2	.....	.....	5	.....	NW	0.03	0.8	.....	.....	D. clouds.....	
Trenton, Villafranca, France.....	30.21‡	767.3‡	.....	.....	59	15.0	70	E	.....	.....	0–1	.....	10	.....	.....	0	0	Smooth	.....	Overcast	
Tuscarora, San José, Guatemala....	29.93‡	760.2‡	.....	.....	75	23.9	86	N	.....	.....	1	.....	2	.....	Calm	.....	.....	Long	SE	Fair.....	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.33‡	770.4‡	.....	.....	34	1.1	90	SW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	30.18‡	766.6‡	.....	.....	21	— 6.1	71	W	5	2.2	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, Montivideo, Uruguay.†	30.23‡	767.8‡	.....	.....	69	20.6	95	NW	.....	.....	7	.....	10	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Wyoming, Villafranca, France	30.22‡	767.6‡	.....	.....	55	12.8	62	ESE	.....	.....	0–1	.....	8	.....	E	.....	.....	Smooth	E	Cloudy.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. *Circassian*																			R. Carruthers.
S. S. Hibernian, N. 46° 27′, W. 58° 15′		29.67‡	753.6‡	29	— 1.7		ENE			6		10				Rough	SE	Snowing	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford, Philadelphia, Pa.†		30.33‡	770 4‡	32	0.0	80	WNW			1		0						Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, N. 46° 58′, W. 37° 19′		30.31‡	769.9‡	36	2.2		WNW			7		8		WNW	Heavy	High	WNW	Stormy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 40° 14′, W. 67° 39′		30.14‡	765.5‡	37	2.8	81	NW	32	14.3		2c	4k	W	NW		Mod'ate	WSW; NW	D. clouds	
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 47° 08′, W. 30° 15′		30.09‡	764.3‡	40.0	4.4	90	NNW			7		8		NW	2 h'rs	Rough	NW	Sleeting	S. Risius.
S. S. Ohio, G. Meyer, N. 49° 39′, W. 4° 40′		30.17‡	766.3‡				W			6		8		W		Heavy	W	Cloudy	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, Yokohama, Japan		29.90‡	759.41	45	7.2		W			2		k		W	0	Smooth		D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. *Orizaba*																			
S. S. State of California, G. Delney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio																			E. LeLack.
S. S. Colima, R. R. Searle																			F. S. Doane.
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Z alandia, R. C. Ghest.																			
S. 33° 53′, E. 153° 42′		30.111	764.8‡				NE			4				E		Smooth	E	Fine	

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

RED STAR LINE MARINE SERIES.

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

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury.																			
S. 5° 49′, W. 31° 15′		29.811	757.2‡	52	27.8		ESE			5		?		ESE		Mod'ate	SE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

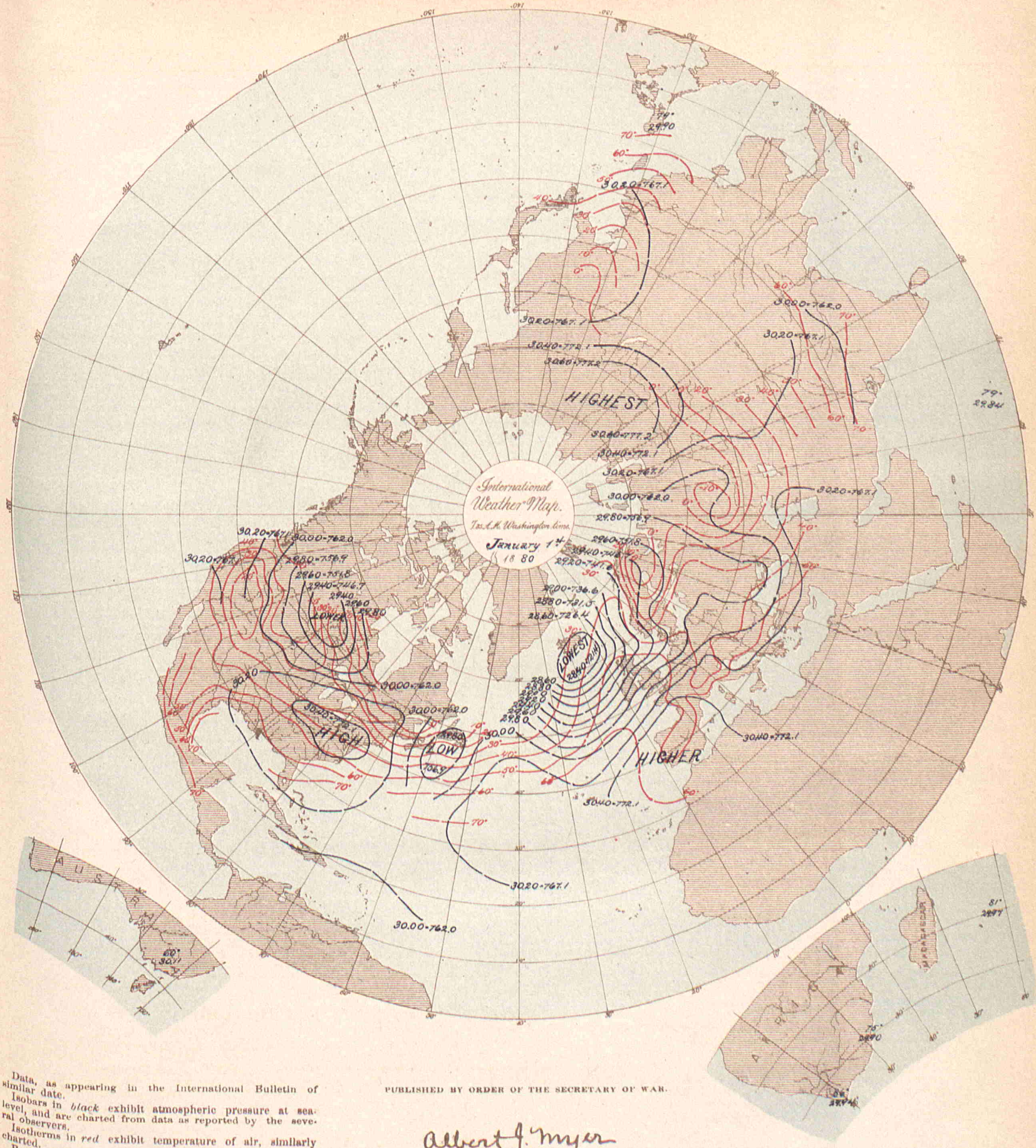
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 2, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.36	771.1	56.3	13.5		NE			2		2			0	0	Fair	
Nemours			30.42	772 6	59.4	15.2	87	E			1		4			0	0	Cloudy	Kesxuche.
Algiers			30.47	774.0	58.3	14.6	45	W			5		0			0	0	Clear.	Tourilliere.
La Calle			30.35	770.9	58.5	14.7	77	N			2		8			0.437	11.1	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.36	771.1															Gau.
Saida			30.52	775.3															Herbin.
Tebessa			30.41	772.5	44.1	6.7	79	N			2		10			0.764	19.4	Covered	Watrin.
Geriville								NW			3		0			0	0	Clear.	Brugnlaux.
Laghouat			30.47	774.0	55.0	12.8	38	NNW			4		0			0	0	Clear	Bertrand.
Biskra			30.39	772.0	60.8	16.0	61	NW			7		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.71	754.7	30.28	769.1	44.8	7.1	65	N			3		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.40	746.7	30.19	766.9	38.8	3.8	100	W	3.8	1.7			10			0.264	6.7		Dr. Wierzbicki.
Eperies	29.24	742.6	30.16	766.0	34.5	1.4	93	Calm			0		10			0.039	1.00		Julius Mikolik.
Gratz	29.00	736.6	30.28	769.1	45.5	7.5	65	WNW			1		5			0	0		Andreas Rospini.
Hermannstadt	28.67	728.3	30.16	766.1	36.7	2.6	94	NW			1		10			0.033	0.85		Prof. A. Gottschling
Kremsmünster	28.98	736.1	30.36	771.2	44.2	6.8	85	SSW			2		8			0.563	14.3		Prof. C. Wagner.
Lemberg	29.13	740.0	30.18	766.5	30.0	— 1.1	96	SE			1		0			0.067	1.7		Dr. T. Stanecki.
Pola	30.22	767.5	30.33	770.4	46.0	7.8	83	WNW			1		8			0	0		I.R.Hydrographic Office
Szathmar	29.74	755.4	30.23	767.8	35.2	1.8	93	S			2		0			0	0		Pet. Panesics, S. J.
Szegedin					39.2	4.0	88	W			3		10			0.035	0.90		Karl Stancel.
Trieste	30.25	768.4	30.35	771.0	41.9	5.5	91	Calm			0		0			0	0	Foggy	P. Busin.
Vienna	29.55	750.5			47.3	8.5		W			4					0.181	4.6		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels	30.03	762.8	30.24	768.0	47.5	8.6	88	SW			5		10		SW	0.016	0.40	Light rain	Royal Observatory
Furnes	30.19	766.7	30.21	767.3	48.7	9.3	92	SW			5		10			0.016	0.4	Light rain	M. E. de Cae.
Maeseyck	30.12	765.1	30.25	768.3	47.1	8.4	86	SW			4		10			0	0		M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.48	748.8	29.58	751.3	38.6	3.7		SSW	24	10.7			2			0	0	Squally	W. Boswell.
Ardrossan	29.72	754.9	29.74	755.4	42	5.6		SW			6		2					Blue sky	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.65	753.1	29.89	759.2	44.6	6.7		SW	27	12.1			3					Showery	S. Call.
Bidston (Liverpool Obs)			30.02	762.5	45.7	7.6		WSW	33	14.8			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.49	749.0	30.04	763.0	43.4	6.3		WSW	24	10.7			0					Blue sky	Thomas M. Ekereth.
Bradford, Yorkshire	29.61	752.1	30.00	762.0	44.3	6.8		W			4		8			0.11	2.8	D. clouds	J. McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	30.00	762.0	74	23.3		NE			1		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.93	760.2	30.03	762.7	49.0	9.4		SW			2		7					D. clouds	H. Todd.
Cardington			30.11	764.8	48.0	8.9		W			1		4					D. clouds	John McLaren.
Chatham (School M. E.)	30.04	763.0	30.18	766.6	50.1	10.1		S			1		6					D. clouds	J. Carmell, Sapper, R.E.
Dollaghadee	29.81	757.2	29.85	758.2	44	6.7		WNW			6		3					D. clouds	J. Mac Gowan.
Dover	30.14	765.5	30.17	766.3	46	7.8		WSW			4		8					¾ clouded	J. Costello.
Falmouth (Observatory)	30.06	763.5	30.29	769.4	48.4	9.1		W			2		9					Overcast	The Staff.
Fort Napier, Natal	27.78	703.1	29.90	759.4	80.0	26.7		NE			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.55	750.6	44	6.7		WSW			8		7			0.30	7.6	Showery	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	29.48	748.8	29.69	754.1	41.2	5.1		SW			8		8					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.07	763.8	30.08	764.0	49	9.4		W			4		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.98	761.5	30.16	766.1	49.4	9.7		WSW			3		6					D. clouds	The Staff, for G. B. Airy.
Guernsey	30.04	763.0	30.26	768.6	49	9.4		WSW			2		8					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.38	771.6	30.51	774.9	50	10.0		W			2	4ck				0	0	Fine	M. P. Moyle.
Holyhead	29.98	761.5	30.04	763.0	45	7.2		SW			5		0					Blue sky	John Tilston.
Jersey	30.02	762.5	30.32	770.1	49.0	9.4		W			4		10			Blank	Blank	Overcast	J. Fisher.
Kew (Observatory)	30.13	765.3	30.17	766.3	50.3	10.2		W	17	7.6			7					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.86	758.4	30.12	765.0	47.5	8.6		NW			1		10					Misty	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.08	764.0	30.16	766 1	56.8	13.8		NE			2		8k					Overcast	A. King.
Nairn	29.34	745.2	29.44	747.8	40	4.4		W			4		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.23	767.8	74.2	23.4		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.91	759.7	30.10	764.5	47.3	8.5		SW			4	2c		SW		0.030	0.76	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.58	751.3	30.11	764.8	46.0	7.8		W			5–6		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.16	766.1	30.24	768.1	48.5	9.2		WNW			2		8					D. clouds	John Merrifield.
*Roche's Point	30.09	764.3	30.19	766.8	46	7.8		W			4		5					¼ clouded	Wm. Kennedy.
St. Ann's Head	29.98	761.5	30.15	765.8	48	8.9		WSW			6		3					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29 24	742.7	38.9	3.8		SW	45	20.1			6					Showery	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.97	761.2	30.04	763.0	45.6	7.6		SW			1		10					Raining	Serg't W. H. Lyne.
Sheffield	29.67	753.6	30.06	763.5	45.0	7.2		SW			4		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.83	757.7	29.86	758.4	43.1	6.2	81	SW			6		0			0.110	2.79	Blue sky	Francis Redford, A. M.
Stonyhurst (Observatory)			30.00	762.0	43.5	6.4		SW	24	10.7			7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss					49.9	9.9		W			2		5					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.23	767.8	30.28	769.1	50	10.0		W			4		6					D. clouds	W. Newcombe.
Valencia Observatory)	30.11	764.8	30.13	765.3	45.9	7.7		WSW	39	17.4			5			Blank	Blank	Squally	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.92	760.0	29.96	761.0	84.3	29.1	51	SSE	11.9	5.3		0	0			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.60	650.2			93	33.9		Var.				0	0						Robert Burnet.
Constable, Cape Colony	26.70	678.2			81	27.2		NW					6						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.47	774.	63.5	17.5		SE			Slight		Slight			0	0	Fine	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			29.71	754.6	42.0	5.6		W			5		6k			0.12	3.0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	760.8	82.3	27.9	63	E	18.0	8.0		1	5		ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	64.0	17.8	78	W			4		3			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.38	746.2	45	7.2		W			8		10			0.2	5.		
North Unst, Shetland Is			28.97	735.8				W			8		10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
H. M. S. Alert, Off Sandy Bay, Patagonia			29.23‡	742.4‡	52.2	11.2		ENE			1		9					Overcast	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 45° 10′, W. 28° 20′			29.92‡	760.0	54	12.2		S			6		10			8	SSW	Overcast	Capt. A. J. Brown
City of Cashmere, S. 39° 26′, W. 129° 00′			29.98‡	761.5‡	63.5	17.5		N			6		9					Misty	Capt. W. M. Grieve.
Barque Commewyne, N. 18° 25′, W. 59° 00′			30.10‡	764.5‡	78.5	25.8		ENE			4		7					D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, N. 42° 10′ W. 64° 20′			30.19	766.8	48	8.9		SW			4		7			3	WSW	D. clouds	Capt. Campbell.
Barque Fedalma, N. 36° 35′, W. 51° 45′			30.21	767.3	60	15.6		NNW			4		6			5	WNW	Showery	Capt. H. L. Fox.
S. S. German, S. 8° 02′, W. 4° 55′			29.86‡	758.4‡	78	25.6		SE			2		6					D. clouds	Capt. O. D. Coxwell.
Iron Cross, N. 52° 40′, W. 5° 50′			30.08	764.0	47	8.3		W			5		1			2	SW	Blue sky	Capt. W. Randall.
S. S. Peruvian, N. 54° 20′, W. 20° 25′			29.75	755.6	45	7.2		WNW			7		7		W			Squally	Capt. W. H. Smith.
S. S. Strathleven, N. 6° 25′, E. 61° 45′			29.81‡	757.2‡	77.5	25.3		N			5		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam, N. 48° 00′, W. 26° 10′			30.18	766.6	53	11.7		S			6		9			4	SSW, WSW	Squally	Capt. C. M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
San José	26.18	665.0	29.90	759.4	62.6	17.0	87	SE			4		2d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

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

Copenhagen	29.76	755.9	29.81	757.1	43.0	6.1	95	WSW			2		10					Rain & fog	
Farõe	29.82	757.4	29.84	757.9	40.8	4.9	94	W			4		8						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.16	740.7	29.21	741.8	21.7	— 5.7	100	N			8		10					Snowing	
Thorshavn (Farõe)	28.58	726.0	28.62	726.9	39.9	4.4	74	W			8		7					Rain & hail	
Vestervig	29.66	760.7	29.67	763.5	40.3	4.6	96	SW			6		9						

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

FRENCH SERIES.

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

Alençon, Normal School	29.85	758.1	30.40	772.1	47.5	8.6	97	SW			1		10kn	NW	W	0.024	0.6	Covered	Collignon, Director.
Amiens, Normal School	30.14	765.6	30.25	768.4	50.4	10.2	86	S			1		8		NE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.98	761.4	30.24	768.0	45.5	7.5	94	SW			3		10		SW	0.012	0.3	Raining	Klein, Commandant.
Avignon, Normal School	30.30	769.6	30.38	771.6	54.7	12.6	59	N			4		5			0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.89	759.2	30.47	773.9	45.0	7.2	93	SW			1		10		SW	Inap.	Inap.	Covered	C. Saillard, Director.
Beauvais, Normal School	30.06	763.5	30.33	770.4	48.9	9.4	84	WSW			1		10		W	0.030	0.75	Covered	Frère Eugene Marie.
Besançon, Normal School	29.62	752.3	30.55	775.9	43.5	6.4	91	SW			1		10		SW	0.12	3.	Covered	A. Carré, Director.
Bordeaux	30.32	770.1	30.52	775.1	49.8	9.9	74	S			1		10			0.004	0.10	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.64	752.9	30.56	776.1	39.6	4.2	94	S			1		10s			0	0	Covered	Mariot, Director.
Bourges, Normal School	29.84	757.8	30.41	772.4	44.6	7	97	SW			2		10ns		SW	0.08	2.	Covered	M. Gence, Director.
Brest, Naval Observatory	30.11	764.8	30.35	770.9	52.5	11.4	90	WNW			1		9		W	0.069	1.75		Ch. de Kermaree, Dir.
Caen, Normal School	30.20	767.0	30.24	768.0	52.2	11.2	73	SSW			3		8		SSW	0.08	2.	Very cloudy	M. Bietrin, Director.
Carcassonne, N. School	30.03	762.7	30.46	773.6	46.4	8	72	W			3		5	WNW	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.05	763.3	30.39	771.9	40.1	4.5	93	SW			2		10	SW	SW			Covered	Jadot, Director
Chartres, Normal School	29.89	759.3	30.50	774.7	33.8	1	82	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.11	739.3	30.51	775.0	46.2	7.9	80	NW			1		8			0	0		Alluard, Director.
Commercy, Normal School	29.56	750.7	30.50	774.6	43.7	6.5	91	WSW			1		8n	W	WSW	0.12	3.	Very cloudy	Dr. Coullet, Director
Commune de Gréasque*	29.24	742.7	30.38	771.7	55.9	13.3	50	N			1		2	Calm	SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.75	755.7	30.56	776.3	37.6	3.1	100	ENE			1		8kn			0.008	0.2	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.30	769.5	30.52	775.2	48.9	9.4	97	SSW			1		10			0.102	2.6	Covered	Mouillot, Director.
Le Mans, Normal School	30.13	765.3	30.45	773.4	47.7	8.7	97	W			1		5		W	0.020	0.5	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.53	750.1	30.49	774.4	25.7	— 3.5	65	N			1		10			0.94	24.	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.28	769.1	30.39	771.9	50.0	10.0	93	SW			4				SW	0.079	2.0		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.89	759.2	30.54	775.6	43.2	6.2	94	SSE			1		8			0.067	1.7	Foggy	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.06	763.5	30.33	770.4	55.0	12.8	57	WSW			1		3		SW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.32	744.6	30.41	772.8	41.7	5.4	91	WSW			3		10kn	SW	SW	0	0	Covered	Barbier, Director.
Mont-Louis	25.19	639.8	30.50	774.8	47.8	8.8	26	ENE	7.4	3.3			2		E	0	0		M. Cave
Nice	30.30	769.7	30.34	770.6	54.7	12.6	71	NW			3		1	NW	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.16	766.1	30.36	771.1	56.8	13.8	47	N			6	2c			N	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.10	764.6			47.8	8.8	86	SW			2		10		WSW	Inap.	Inap.		Marié Davy, Director.
Perpignan	30.30	769.6	30.41	772.5	55.0	12.8	51	N	22.4	10.0			1	N		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.81	579.2			38.8	3.8									NE	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.37	746.0	30.47	773.9	47.5	8.6	61	N			3		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.48	647.2			29.8	— 1.2	100	NW			2				WNW	0.575	14.6	Misty	Alluard, Director.
Rochefort, Naval Obs'y	30.50	774.8	30.54	775.6	50.0	10.0	92	SW			1		10	SW	SW	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.28	767.8	30.32	770.0	51.4	10.8	78	S			2		10		SW	0.039	1.0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.28	769.0	30.31	769.8	54.3	12.4	75	WSW			4		8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.23	767.7	30.39	771.9	46.8	8.2	96	SW			1		10		WSW	0.008	0.2	Covered	E. Renou, Director.
Tarbes, Normal School	29.37	746.1	30.48	774.2	50.0	10	50	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.85	758.1	30.58	776.8	41.4	5.2	80	SW			1		8			0	0	Foggy	M. Juher Mercadier.
Tours	30.26	768.3	30.45	773.3	50.7	10.4	86	SW			2		10		W	0.075	1.9	Covered	Cousin-Marquet.
Versailles, Observatory	29.88	758.9	30.37	771.4	47.1	8.4	89	W			1					0.048	1.23		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.89	757.7	30.58	776.6	45.5	7.5	85	SE			1		5		NW	0.059	1.5	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.2	24										1.73	44.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	29.99	761.8	30.02	762.5	32.5	0.3	70	NW	6.9	3.1			4			0	0	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.45	748.0	30.32	770.1	43.5	6.4	91	SW			4		9k	SSW		0.165	4.2		Prof. Dr. Hoh.
Berlin	29.95	760.6	30.12	765.1	44.6	7.0	92	SW			2		10			0.161	4.1	Raining	Prof. Dr. Arndt.
Breslau	29.65	753.2	30.19	766.8	43.3	6.3	87	W			3		9	W		0.506	12.86		Royal University Obs'y.
Carlsruhe	29.96	760.9	30.40	772.2	46.4	8.0	90	SW			2		10	SW		0.063	1.6		Albert Senz.
Cassel	29.66	753.3	30.27	768.8	45.1	7.3	84	SW			2		7	SW		0.284	7.23	Raining	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel
Frankfort on the Main	30.04	762.9	30.42	772.7	46.9	8.3	62	SW			3		6			0	0		Physical Society.
Friedrichshafen	28.98	736.2	30.48	774.1	42.8	6.0	90	SW			2		10	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.97	761.3	30.00	762.1	44.1	6.7	93	SW			7		10			0.154	3.9		Dr. Reinhold Kleeman.
Kiel	29.95	760.7	29.97	761.1	43.9	6.6	96	W			5		10			0.116	2.94		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.89	759.3	29.98	761.5	33.4	0.8	86	S			2		10			0.016	0.4		Prof. E. Luther.
Köslin			29.98	761.6	39.7	4.3		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.82	757.5	30.26	768.5	45.1	7.3	88	SW			3		10	WSW		0.378	9.6		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.95	760.8	30.18	766.6	46.8	8.2	85	WSW			1		10ks	WSW		0.091	2.3		Dr. Assmann.
Memel	29.87	758.6	29.91	759.8	31.8	— 0.1	100	S			4–5		10n					Sleeting	Reinbrecht & Issermann.
Munich (München)	28.54	724.9	30.39	771.8	46.2	7.9	75	SW			3		4	W		0.098	2.5		Dr. C. Lang.
Neufahrwasser	29.94	760.4	29.95	760.8	39.7	4.3	92	WSW			4		10			0.087	2.2		A. Lothes.
Neustadt (Palatinate)	29.82	757.4	30.35	770.9	47.3	8.5	73	WSW			4		9	W		0	0		Reallehrer Dicknether
Posen	29.80	756.9	30.10	764.5	39.7	4.3	98	W			2		10			0.224	5.7		Prof. Dr. Magener.
Strassburg (in Alsace)	29.80	759.2	30.46	773.6	47.3	8.5	86	SW			2		10	SW		0.086	2.18	Light rain	Imp. University Observatory.
Stuttgart	29.43	747.4	30.39	771.9	49.1	9.5	70	SW			2		9	W		0.016	0.4		Prof. Dr. Schoder.
Thorn	29.92	760.0	30.11	764.8	39.2	4.0	98	W			2		10			0.220	5.6		Dr. Cunerth.
Weissenburg (Bavaria)	28.85	732.8	30.45	773.4	43.2	6.2	90	W	4.5	2.0			8k		W	0.173	4.4		Reallehrer J. Hopfner
Wustrow	29.95	760.6	29.97	761.2	39.9	4.4	100	SW			5		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.76	755.8	30.15	765.8	56.3	13.5		SW			0.5		0					Clear	Dr. J F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.90	759.4	29.95	760.7	72.7	22.6	77	W	8	3.6			5		W	0	0	D. clouds	
Deesa	29.42	747.4	29.91	759.6	72.7	22.6	30	WNW	8.2	3.7			6	NE		0	0	D. clouds	
Bombay	29.78	756.3	29.82	757.3	73.1	22.8	79	NNW	24	10.7			0			0	0	Blue sky	
Poona (Yarrowda)	27.95	710.0	29.81	757.2	76.8	24.9	12	NE	12	5.4			0			0	0	Blue sky	
Belgaum	27.27	692.6	29.81	757.3	73.8	23.2	25	N	2	0.9			1	SE		0	0	D. clouds	
Lahore	29.18	741.1	29.96	760.8	58.6	14.8	70	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	28.98	736.1	29.91	759.8	62.8	17.1	52	Calm	2.0	0.9			2			0	0	D. clouds	
Agra	29.40	746.9	29.99	761.8	63.8	17.7	58	W	1.5	0.7			0			0	0		
Nagpur	28.78	731.1	29.85	758.2	67.0	19.4	33	Calm	1.9	0.8			0			0	0	Blue sky	
Jubbulpore	28.55	725.0	29.96	761.1	62.1	16.7	53	N	2.1	0.9			3			0	0	D. clouds	
Lucknow	29.52	749.9	29.92	759.8	64.9	18.3	53	Calm	0.2	0.1			6	ESE		0	0	D. clouds	
Allahabad	29.60	751.8	29.93	760.1	59.3	15.2	74	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.71	754.7	29.90	759.5	67.0	19.4	60	WSW	0.5	0.2			6	WSW	WSW	0	0	D. clouds	
Hazaribagh	27.81	706.4	29.90	759.4	58.8	14.9	63	NW	1.7	0.8			0			0	0	Blue sky	
Cuttack	29.78	756.3	29.86	758.4	68.6	20.3	65	NE	2.0	0.9			10			0	0	Overcast	
Calcutta (Alipore)	29.84	757.9	29.86	758.4	67.6	19.8	72	N	4.0	1.8			10			0	0	Overcast	
Goalpara	29.48	748.7	29.88	758.9	65.2	18.4	62	SE	6.7	3.0			0			0	0	Blue sky	
Chittagong	29.76	755.9	29.85	758.2	74.1	23.4	84	Calm	0.9	0.4			7			0	0	Misty	
Sibsagar	29.58	751.2	29.93	760.1	61.9	16.6	83	ENE	1.5	0.7			0			0	0	Blue sky	

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

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.92	760.0	30.36	771.0	42.8	6.0	65	W	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.82	757.3	30.37	771.3	36.3	2.4	84	WNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.24	768.1	30.36	771 1	37.9	3 3	74	NW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.42	747.3	30.37	771.3	29.1	— 1.6	76	NNE	0	0	.....	.....	3	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.15	765.8	30.35	770.9	54.7	12.6	66	SE	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.37	720.5	30.36	771.2	43.5	6.4	50	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.32	770.0	30.36	771.2	36.9	2.7	84	NW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.09	764.2	30.36	771.2	37.4	3.0	91	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.25	768.4	30.34	770.7	52.5	11.4	66	N	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.13	765.3	30.32	770.0	51.4	10.8	59	N	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.99	761.7	30.26	768.3	53.6	12.0	62	NNE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.35	745.5	30.27	768.9	49.5	9.7	69	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.08	764.0	30.28	769.1	55.4	13.0	59	NE	.....	.....	2	.....	2	E	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.02	762.5	30.28	769.1	55.0	12.8	62	NE	6.3	2.8	.....	.....	9	NE	.....	0.016	0.4	.....	Prof. G. Ciaccialore.
Syracuse	30.13	765.3	30.18	766 5	55.0	12.8	74	ENE	6.3	2.8	.....	.....	10	NE	.....	0.303	7.7	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.78	755.2	30.26	768.7	55.0	12.8	56	NE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	29.91	759.7	29.93	760.2	37.0	2.8	91	NNE	4.2	1.9	.....	.....	8s	.....	.....	0.272	6.91	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.94	760.5	41.9	5.5	87	N	0.6	0.3	.....	.....	2s	.....	.....	0.250	6.35	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.88	758.9	29.95	760.7	40.9	4.9	85	N	6.2	2.8	.....	.....	10n	.....	.....	0.700	17.78	Raining	The Staff.
Wakayama	29.78	756.4	29.83	757.7	41.6	5.3	93	NW	8.1	3.6	.....	.....	10kspn	.....	.....	0.587	14.91	Raining	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.09	637.4	30.28	769.0	43.7	6.5	57	Calm	.....	.....	0	2k	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.45	621.0	30.24	768.2	51.1	10.6	80	W	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.76	755.8	30.02	762.6	60.1	15.6	54	NW	.....	.....	5	2cs	0	SW	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.06	585.7	30.27	768.8	41.4	5.2	82	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.10	612.1	.....	.....	66.5	13.6	63	SE	.....	.....	2	3k	0	SE	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.88	605.3	29.90	759.4	49.8	9.9	81	Calm	.....	.....	0	1s	0	.....	.....	Inap.	Inap.	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.61	597.2	30.57	776 5	37.0	2.8	42	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.39	772.0	48.3	6.8	70	E	.....	.....	1	.....	10	.....	W	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. M. Cházaro
Vera-Cruz	30.01	762.3	30.04	763.0	69.8	21.0	82	Calm	0	0	.....	9k	0	S	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.58	572.2	30.24	768.2	48.2	9.0	75	SW	.....	.....	2	1s	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.10	766.8	30.10	766.8	46.0	7.8	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.00	761.9	30.05	763.3	43.3	6.3	.....	SW	.....	.....	4	.....	.....	.....	.....	0.020	0.5	.....	
Helder	30.05	763.2	30.05	763.2	42.6	6.0	.....	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.15	765.8	30.15	765.8	45.3	7.4	90	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.11	764.7	30.15	765.9	45.9	7.7	97	SSW	.....	.....	5	.....	10	.....	.....	0.059	1.5	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.24	742.8	29.30	744.2	41.7	5.4	63	SW	34.4	15.4	.....	.....	3	.....	.....	0.126	3.2	Sleeting.....	
Brönö	28.75	730.2	28.79	731.2	39.2	4.0	75	SW	27	12	.....	.....	8	.....	.....	0.472	12.0	.....	
Christiana	29.15	740.3	29.30	744.1	38.5	3.6	97	WSW	7	3	.....	.....	8	.....	.....	0.217	5.5	.....	
Tromsö	28.66	728.0	28.71	729.1	28.8	—1.8	74	SW	13	6	.....	.....	10	.....	.....	0.039	1.0	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.52	749.7	30.56	776.1	50.0	10.0	72	SSW	1.3	0.6	.....	3	.....	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.50	774.6	30.58	776.8	64.0	17.8	44	NE	3.8	1.7	.....	8	.....	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.26	768.7	30.64	778.3	46.9	8.3	75	Calm	0	0	.....	10	.....	WNW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.42	772.7	30.49	774.5	63.3	17.4	78	SE	6.3	2.8	.....	3	.....	.....	.....	0.007	1.7	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. ' Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. O. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.																			
Porto Praya, Cape Verd, Ids	.....	.....	.....	.....	76.3	24.6	.....	E	.....	.....	4	.....	7	.....	E	3	E	D. clouds.....	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando, Gulf of Guinea.	.....	.....	29.91	759.8	80.6	27.0	.....	W	.....	.....	4	.....	2	.....	NW	.....	.....	D. clouds.....	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.22	767.5	55.8	13.2	.....	NE	.....	.....	2	.....	0	.....	.....	1	N	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.82	757.4	29.84	757.9	19.0	— 7.2	93	SE	4	2	.....	10	.....	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.09	764.3	30.01	762.2	29.3	— 1.5	100	SE	2	1	.....	10cp	.....	.....	.....	Blank	Blank	Heavy clouds...	Capt. Wisganow.
Barnaul	29.72	754.9	30.26	768.7	14.9	— 9.5	100	NE	4	2	.....	0	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.70	754.4	29.96	760.9	27.7	— 2.4	89	S	11	5	.....	10n	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.05	737.9	30.12	765.1	— 1.3	—18.5	84	W	7	3	.....	10	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.92	760.0	30.22	767.6	3.4	—15.9	89	Calm	0	0	.....	10	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.05	737.9	29.72	754.8	28.4	— 2.0	82	N	7	3	.....	10m	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.71	754.5	30.23	767.7	9.0	—12.8	74	W	0	0	.....	10	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.66	753.4	29.87	758.8	28.8	— 1.8	88	Calm	0	0	.....	10	.....	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.56	750.9	30.16	766.0	17.1	— 8.3	82	SW	7.8	3.5	.....	10s	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.67	702.9	30.24	768.1	— 5.4	—20.8	57	NNW	13	6	.....	10	.....	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.05	763.2	30.12	765.0	30.6	— 0.8	88	NNW	4	2	.....	10n	.....	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.98	761.6	30.23	767.9	27.3	— 2.6	81	ENE	•9	4	.....	9ks	.....	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.95	760.8	30.10	764.4	21.4	— 5.9	39	NW	20	9	.....	3cs	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.94	760.5	29.96	760.9	24.1	— 4 4	98	SSE	11	5	.....	10n	.....	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.80	731.4	30.52	775.2	18.3	— 7.6	100	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.60	726.4	30.06	763.5	41.0	5.0	61	N	4	2	.....	5cs	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.66	753.3	30.10	764.6	32.4	0.2	96	SSE	9	4	.....	10m	.....	.....	.....	.....	.....	Raining	Astronomical Obs.
Wilna	29.70	754.4	30.15	765.7	27.9	— 2.3	96	S	9	4	.....	10	.....	.....	.....	.....	.....	Heavy clouds....	Astronomical Obs.
Yeniseisk	30.22	767.6	30.55	775.9	— 9.2	—22.9	83	Calm	0	0	.....	0	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.30	769.6	30.41	772.3	52.2	11.2	45	SW	0.8	0.36	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.50	774.6	30.56	776.1	49.3	9.6	60	SW	2.5	1.13	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran.
Burgos, Met. Obs'y	27.52	699.0	.....	.....	24.8	— 4.0	93	W	1.8	0.81	.....	0	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.25	717.5	30.60	777.3	39.0	3.9	74	SE	3.7	1.67	.....	0	1	.....	.....	0	0	.....	The Staff.
Murcia, Met. Obs'y	30.32	770.1	30.47	774.0	59.5	15.3	46	SSW	2.9	1.31	.....	0	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.59	751.6	30.52	775.1	51.8	11.0	74	SSW	10.5	4.7	.....	.....	8	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.3	30.20	767.0	69.1	20.6	77	E	1.3	0.6	.....	0	7k	.....	ENE	0	0	Fair...	Benito Vines, S. J.
Manilla, Phillippine Islands	29.79	756.6	29.84	758.0	79.2	26.2	84	N	2.2	1.0	.....	.....	10n	.....	W	0.039	1.0	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.49	774.3	30.59	777.0	51.8	11.0	68	NW	4.2	1.9	.....	2	4	N	N	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.98	761.6	30.08	763.9	74.1	23.4	89	W	0	0	.....	5k	4kn	W	W	0.069	1.75	Cloudy.....	Enrique Gades, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.07	738.3	29.11	739.3	27.3	— 2.6	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	
Umea	29.02	737.1	29.07	738.4	33.1	0.6	100	S	.....	.....	8	.....	10	.....	.....	0.154	3.9	.....	
Hernosand	29.05	737.9	29.10	739.2	34.2	1.2	96	S	.....	.....	6	.....	10	.....	.....	0.075	1.9	.....	
Stockholm	29.32	744.7	29.50	749.2	39.2	4.0	93	WSW	.....	.....	4	.....	10	.....	.....	0.031	0.8	.....	
Wisby	29.60	751.7	29.65	753.2	41.0	5.0	94	WSW	.....	.....	6	.....	10	.....	.....	0.063	1.6	.....	
Sub-Series.																			
Upsala	29.26	743.2	29.36	745.4	38.1	3.4	98	SSW	21.5	9.6	.....	.....	10	.....	WSW	0.023	0.57	Raining	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	29.06	738.1	30.55	776.0	33.3	0.7	92	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy.....	The Observatory.
Zurich	28.84	732.2	30.51	774.9	41.2	5.1	92	SE	.....	.....	1	.....	4	.....	.....	0	0	Fair.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +10.4 mm.; Thermometer, —0.8 Cent.; Relative Humidity, +12 per cent

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

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.09	764.3	47.1	8.4	91	NW	4	2.0	.....	.....	10	.....	SW	0.331	8.4	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.23	767.9	54.3	12.4	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.15	765.8	59.9	15.5	71	SW	.....	.....	1	.....	10n	.....	SW	0.72	18.3	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	29.56	750.8	29.67	751.1	14.6	— 9.7	.....	SW	8	3.6	.....	.....	.....	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Chatham, N. B	29.67	753.6	29.74	755.4	13.3	—10.4	91	Calm	0	0	.....	.....	10s	.....	.....	0.01	0.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.76	755.9	29.80	756.9	21.5	— 5.8	97	S	20	8.9	.....	.....	10n	.....	.....	0.10	2.5	Overcast.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.57	751.1	29.77	756.1	37.8	3.2	80	NW	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.46	748.3	29.64	752.8	8.5	—13.1	.....	E	1	0.4	.....	.....	10ks	.....	.....	0.05	1.3	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29.37	746.0	29.39	746.5	19.6	— 6.9	100	SW	35.0	15.6	.....	5kn	5n	.....	.....	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.67	753.6	29.74	755.4	32.0	0.0	76	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.30	744.2	30.25	768.3	— 8.6	—22.6	97	E	3	1.3	.....	Haze	Haze	.....	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	28.91	734.3	30.05	763.3	33	0.6	.....	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.82	757.4	29.95	760.7	35.0	1.7	96	S	12	5.4	.....	.....	10n	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.55	750.6	29.93	760.2	37.1	2.8	95	SW	.....	.....	3	10cs	0	NE	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.55	750.6	29.90	759.4	37.1	2.8	81	W	17	7.6	.....	.....	10ks	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	22.7	— 5.2	92	S	4	1.8	.....	.....	10n	.....	.....	0.30	7.6	Cloudy.....	C. H. Rigby.
Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	.....	C. H. McLeod, C. E.
Moose Factory, Ontario	29.57	751.1	29.60	751.8	4.1	—15.5	97	NW	.....	.....	6	.....	10	.....	.....	0.70	17.8	Stormy.....	J. R. Nrson.
Norwood	29.14	740.1	29.85	758.2	25.0	— 3.9	73	E	9	4.0	.....	7clc	0	W	.....	0	0	Cloudy.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.14	740.1	29.85	758.2	36.0	2.2	80	SW	24	10.7	.....	2cs	3ks	W	W	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.90	759.4	37.7	3.2	81	SW	.....	.....	3	8k	0	.....	.....	0	0	Cloudy.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.34	745.2	30.05	763.3	36.0	2.2	90	SW	13	5.8	.....	10k	0	SW	.....	0	0	Cloudy.....	H. Morgan.
Port Stanley, Ontario	29.40	746.7	30.07	763.8	35.2	1.8	.....	W	16	7.2	.....	.....	7ks	.....	.....	0.08	2.0	Cloudy.....	M. Payne.
Quebec, Quebec	29.34	745.2	29.68	753.9	18.0	— 7.8	92	NW	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Cloudy.....	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	29.76	755.9	29.98	760.2	35	1.7	75	SW	27	12.1	.....	.....	10ks	.....	.....	0	0	Clearing.....	G. Murdock, C. E.
Saugeen, Ontario	29.22	742.2	29.96	761.0	36.0	2.2	80	SW	38	17.0	.....	3cs	0	.....	.....	0	0	Fair	K. Stewart.
Stratford, Ontario	28.72	729.5	30.04	763.0	33.0	0.6	90	W	17.5	7.8	.....	2cs	3s	W	.....	0	0	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B	29.96	761.0	30.00	762.0	14.2	— 9.9	91	SW	7	3.1	.....	.....	10s	.....	.....	0.20	5.1	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	29.58	751.3	29.98	761.5	35.8	2.1	86	W	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy.....	Magnetic Observatory
Windsor, N. S	29.80	756.9	29.90	759.4	33.0	0.6	89	S	14	6.3	.....	.....	10ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A
Woodstock, Ontario	28.94	735.1	30.04	763.0	34.0	1.1	93	SW	20	8.9	.....	1c	1s	W	W	0	0	Fine.....	Professor Wolverton.
Yarmouth, N. S	29.88	758.9	29.94	760.5	37.4	3.0	75	SW	21	9.4	.....	8ck	2s	W	.....	0	0	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	30.01	762.2	12	—11.1	.....	NW	.....	.....	.....	0	0	.....	.....	1.20	30.5	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.92	760.0	19.4	— 7.0	.....	NW	.....	.....	3	.....	10n	.....	.....	.....	.....	Snowing.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum't'al error and temperature. Inches.	BAROMETER. Corrected for instrum't'al error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.77	756.1	30.00	762.0	36	2.2	71	SE	18	8.0			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.26	743.2	29.92	760.0	37	2.8	71	W	19	8.5		0	6s		W	0	0	Fair	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.20	741.7	30.37	771.4	56	13.3	87	NW	2	0.9		0	Sm'e		Calm	0	0	Clear	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	43	6.1	92	SW	16	7.2		10k	0	SW		0	0	Cloudy	
Augusta, Georgia	30.23	767.8	30.44	773.2	55	12.8	93	Calm	0	0			Fog		Calm	0	0	Dense fog	
Baltimore, Maryland	30.13	765.3	30.18	766.6	39	3.9	82	S	8	3.6		10k	0	SW		0	0	Cloudy	
Barnegat, New Jersey	30.13	765.3	30.15	765.8	39	3.9	100	SW	15	6.7		2k	8s	SW	SW	0	0	Cloudy	
Bismarck, Dakota	28.18	715.8	30.04	763.0	15	— 9.4	82	SE	6	2.7		5cs	0	W		0	0	Fair	
Boerne, Texas	28.62	726.9	29.92	760.0	62	16.7	100	E	6	2.7			10s		E	0.55	14.0	Cloudy	
Boise City, Idaho	26.99	685.5	29.95	760.7	45	7.2	61	SE	4	1.8			10n		Calm	0.29	7.4	Light rain	
Boston, Massachusetts	29.80	756.9	29.96	761.0	40	4.4	65	SW	26	11.6		1k	5s	SW	SW	0	0	Fair	
Brackettville, Texas	28.86	733.0	29.91	759 7	60	15.6	94	NE	4	1.8			10s		Calm	0.38	9.7	Threatening	
Breckenridge, Minnesota	29.14	740.1	30.24	768.1	0	—12.8	100	NE	8	3.6			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.04	763.0	30.08	764.0	71	21.7	95	S	8	3.6		2k	0	S		0	0	Clear	
Buffalo, New York	29.32	744.7	30.03	762.7	38	3.3	81	SW	21	9.4			10s		SW	0.01	0.3	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.55	750.6	29.84	757.9	33	0.6	70	S	19	8.5		2ck	2ks	W	W	Inap.	Inap.	Fair	
Cairo, Illinois	29.92	760.0	30.32	770.1	50	10.0	100	Calm	0	0			Fog			0.02	0.5	Foggy	
Campo, California																			
Cape Hatteras, N. Carolina	30.36	771.1	30.36	771.1	49	9.4	93	NE	2	0.9		2c	Haze	Calm		0	0	Hazy	
Cape Henry, Virginia	30.29	769 4	30.31	769.9	44	6.7	76	S	17	7.6		0	2ks		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.33	770.4	30.35	770.9	49	9.4	100	NE	4	1.8		5ck	0	N		0	0	Fair	
Cape May, New Jersey	30.17	766.3	30.20	767.1	43	6.1	75	SW	16	7.2		5ck	2s	W	SW	0	0	Cloudy	
Castroville, Texas	29.28	743.7	29.97	761.2	64	17.8		S	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Cedar Keys, Florida	30.32	770.1	30.34	770.6	64	17.8	89	E	9	4.0		2k	0	E		0	0	Fair	
Charleston, South Carolina	30.33	770.4	30.39	771.9	56	13.3	94	N	4	1.8			Fog			0	0	Foggy	
Charlotte, North Carolina	29.36	749.5	30.35	770.9	49	9.4	100	SW	2	0.9			Fog			0	0	Foggy	
Chattanooga, Tennessee	29.56	750.8	30.39	771.9	45	7.2	92	Calm	0	0			Fog		Calm	0	0	Dense fog	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	25	— 3.9	38	W	2	0.9		0	0			0	0	Clear	
Chicago, Illinois	29.45	748.0	30.16	766.1	38	3.3	91	W	5	2.2			Fog		Calm	0.01	0.3	Foggy	
Cincinnati, Ohio	29.57	751.1	30.23	767.8	52	11.1	93	SW	6	2.7			10s		Calm	0.03	0.8	Threatening	
Cleveland, Ohio	29.38	746.2	30.12	765.0	43	6.1	92	W	11	4.9			10s		W	0.04	1.0	Cloudy	
Coleman City, Texas	28.33	719.6	30.01	762.2	54	12.2	100	SE	8	3.6			10n		Calm	0.19	4.8	Light rain	
Columbus, Ohio	29.35	745.5	30.20	767.1	48	8.9	93	SW	6	2.7			10n		SW	0.49	12.4	Light rain	
Concho, Texas	28.18	715.8	29.86	758.4	54	12.2	87	S			1		10s		Calm	0.28	7.1	Cloudy	
Corsicana, Texas	29.70	754.4	30.17	766.3	62	16.7	94	SE	4	1.8			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.52	749.8	30.18	766.6	36	2.2	100	W	3	1.3			Fog		Calm	0	0	Foggy	
Dayton, Washington T'y					40	4.4	91	SW			1		10s		Calm	0.48	12.2	Cloudy	
Deadwood, Dakota	25.16	639.0			40	4.4	65	SW	8	3.6		0	5s		SW	0	0	Fair	
Decatur, Texas	28.97	735.8	30.15	765.8	55	12.8	74	SE	8	3.6			Fog			0.15	3.8	Foggy	
Denison, Texas	29.42	747.3	30.22	767.6	55	12.8	100	Calm	0	0			Fog			0.03	0.8	Foggy	
Denver, Colorado	24.72	627.9	29.94	760.5	30	— 1.1	68	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.25	742.9	30.19	766.8	25	— 3.9	87	Calm	0	0			Fog		Calm	0	0	Dense fog	
Detroit, Michigan	29.38	746.2	30.06	763.5	37	2.8	90	SW	10	4.5			10s		SW	0	0	Threatening	
Dodge City, Kansas	27.43	696.7	29.80	756.9	32	0.0	79	SE	7	3.1			Fog		Calm	0	0	Foggy	
Dubuque, Iowa	29.46	748.3	30.21	767 3	17	— 8.3	83	Calm	0	0			Fog		Calm	0	0	Foggy	
Duluth, Minnesota	29.51	749.5	30.26	768.6	13	—10.6	81	W	4	1.8		0	0			0	0	Clear	
Eagle Pass, Texas	29.26	743.2	29.98	761.5	59	15.0	94	NE	6	2.7			10s		E	0.01	0.3	Cloudy	
Eastport, Maine	29.70	754.4	29.77	756.1	36	2.2	80	SW	22	9.8			10ks		SW	0	0	Cloudy	
Edinburg, Texas					70	21.1	95	S			1	0	5s		Calm	0	0	Fair	
El Paso, Texas																			
Erie, Pennsylvania	29.39	746.5	30.12	765.0	40	4.4	82	SW	16	7.2			10s		SW	0.02	0.5	Cloudy	
Escanaba, Michigan	29.39	746.5	30.08	764.0	29	— 1.7	56	NW	5	2.2		0	0			0	0	Clear	
Florence, Arizona	28.51	724.1	30.11	764.8	37	2.8	81	Calm	0	0		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.75	704.8	29.65	753.1	24	— 4.4	87	SE	5	2.2		8c	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.42	671.1			24	— 4.4	74	SE	14	6.3		5c	0	W		0	0	Fair	
Fort Davis, Texas	25.16	639.0	30.12	765.0	45	7.2	92	NE	3	1.3			10s		Calm	0.59	15.0	Cloudy	
Fort Gibson, Indian Ter	29.62	752.3	30.16	766.1	54	12.2	93	SE	8	3.6			10s		S	0	0	Cloudy	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	38	3.3	64	W	6	2.7		0	0			0.03	0.8	Clear	
Fort Griffin, Texas	28.92	734.6	30.11	764.8	48	8.9	93	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	26.98	685.3			27	— 2.8	77	SE	8	3.6		0	0			0	0	Clear	
Fort McKavett, Texas	27.79	705.8	29.71	754.6	54	12.2	93	Calm	0	0			10s		NW	0.06	1.5	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.91	734.3	30.04	763.0	46	7.8	100	Calm	0	0			10n		Calm	0.07	1.8	Light rain	
Fort Stevenson, Dakota											1								
Fort Verde, Arizona					32	0.0	89	W				0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.19	716.0	29.72	754.9	62	16.7	100	SE	5	2.2			10n		Calm	0.21	5.3	Light rain	
Galveston, Texas	30.13	765.3	30.18	766.6	64	17.8	94	E	11	4.9			10n		SE	0.05	1.3	Light rain	
Graham, Texas	29.04	737.6	30.10	764.5	52	11.1	100	S	2	0.9			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.44	747.8	30.10	764.5	40	4.4	65	NW	12	5.4		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas					51	10.6	100	S	1	0.4			10n		Calm	0.21	5.3	Drizzling	
Indianapolis, Indiana	29.37	746.0	30.16	766.1	47	8.3	92	SW	4	1.8			10n		E	0.48	12.2	Light rain	
Indianola, Texas	30.10	764.5	30.12	765.0	62	16.7	100	E	4	1.8			10n		E	0.06	1.5	Light rain	
Jacksboro, Texas	28.91	734.3	30.04	763.0	55	12.8	87	N	2	0.9		0	Fog		Calm	0.10	2.5	Foggy	
Jacksonville, Florida	30.36	771.1	30.38	771.6	54	12.2	93	NE	4	1.8			Fog			0	0	Foggy	
Keokuk, Iowa	29.49	749.0	30.12	765.0	41	5.0	91	NW	2	0.9			Fog		Calm	0.29	7.4	Dense fog	
Key West, Florida	30.19	766.8	30.23	767.8	72	22.2	76	NE	16	7.2		2k	0	NE		0.06	1.5	Fair	
Kittyhawk, North Carolina	30.34	770.6	30.36	771.1	47	8.3	92	S	8	3.6		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.37	746.0	30.40	772.1	48	8.9	93	Calm	0	0		0	8ks		W	0	0	Fair	
La Crosse, Wisconsin	29.40	746.7	30.17	766.3	28	— 2.2	66	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	42	5.6	74	N	8	3.6		5k	0	Calm		0.12	3.0	Clearing	
Laredo, Texas	29.60	751.8	29.93	760.2	65	18.3	89	S	4	1.8			10s		S	0	0	Cloudy	
Leavenworth, Kansas	29.25	742.9	30.12	765.0	40	4.4	91	Calm	0	0			Fog		Calm	0	0	Foggy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.92	760.0	30.29	769.4	53	11.7	93	Calm	0	0			Fog		Calm	0	0	Foggy	
Los Angeles, California	29.69	754.1	30.04	763.0	42.0	5.6	74	NE	6	2.7		0	0			0	0	Clear	
Louisville, Kentucky	29.67	753.6	30.24	768.1	54	12.2	87	S	8	3.6			Da.fog		Calm	0.01	0.3	Light rain	
Lynchburg, Virginia	29.58	751.3	30.29	769.4	43	6.1	83	S	1	0.4		2cs	0	W		0	0	Clear	
Madison, Wisconsin	29.10	739.1	30.14	765.5	30	— 1.1	78	W	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.38	746.2	30.12	765.0	28	— 2.2	66	W	10	4.5		0	0			0	0	Clear	
Mason, Texas	28.45	722.6	30.22	767.6	57	13.9	94	S	2	0.9			10s		Calm	0.16	4.1	Cloudy	
Memphis, Tennessee	29.94	760.5	30.28	769 1	56	13.3	93	SE	3	1.3			Fog			0	0	Foggy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.39	746.5	30.10	766.1	30	— 1.1	78	W	9	4.0		1cs	0	Calm		0	0	Clear	
Mobile, Alabama	30.27	768.8	30.31	769.9	57.5	14.2	97	S	3	1.3		0	1s		Calm	0	0	Clear	
Montgomery, Alabama	30.16	765.8	30.39	771.9	55	12.8	93	E	1	0.4			10ks		SW	0	0	Cloudy	
Morgantown, West Virginia	29.18	741 1	30.17	766 3	55	12.8	81	SW	6	2.7			10n		Calm	0.39	9.9	Light rain	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	19	— 7.2	100	NW	72	32.2			Fog		NW	0	0	Foggy	
Nashville, Tennessee	29.80	756.9	30.35	770.9	46	7.8	84	Calm	0	0		0	Sm'e		Calm	0	0	Smoky	
New Haven, Connecticut	29.98	761.5	30.10	764.5	41	5.0	91	SW	17	7.6			10s		SW	0.01	0.3	Threatening	
New London, Connecticut	30.03	762.7	30:08	764.0	41	5.0	82	SW	11	4.9			10s		Calm	0	0	Cloudy	
New Orleans, Louisiana	30.21	7-7 3	30.27	768.8	61	16.1	94	E	10	4.5			Fog		Calm	0	0	Dense fog	
Newport, Rhode Island	30.01	762.2	30.06	763.5	42	5.6	83	SW	22	9.8			10s		W	0	0	Cloudy	
New River, North Carolina					45	7.2	92	NE			1	5c	0	Calm				Fair	
New York, New York	29.93	760.2	30.12	765.0	38	3.3	63	SW	8	3.6			10ks		Calm	0	0	Cloudy	
Norfolk, Virginia	30.27	768.8	30.33	770.4	42	5.6	83	S	8	3.6		0	1s		Calm	0	0	Fair	
North Platte, Nebraska	27.10	688.3	29.85	758.2	16	— 8.9	83	NW	6	2.7		0	0			0	0	Clear	
Olympia, Washington Ter.	29.46	748.3	29.50	749.3	38.0	3.3	91	S	12	5.4			10n		S	0.17	4.3	Light rain	
Omaha, Nebraska	28.92	734.6	30.07	763.8	28	— 2.2	77	N	3	1.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Oswego, New York	29.64	752.8	29.96	761.0	42	5.6	74	SW	10	4.5		0	8ks		W	0.02	0.5	Fair	
Pembina, Dakota	29.28	743.7	30.23	767.8	—10	—23.3	100	NW	2	0.9		0	0			0	0	Clear	
Pensacola, Florida	30.31	769 9	30.34	770.6	62	16.7	88	NE	5	2.2		4k	7ks	S	S	0	0	Cloudy	
Philadelphia, Pennsylvania	30.11	764.8	30.17	766.3	38	3.3	81	SW	10	4.5		8cs	2s;fg	W	W;Calm	0	0	Cloudy	
Phœnix, Arizona	28.82	732.0	30.07	779.0	46	7.8	77	NE	2	0.9		0	0			0	0	Clear	
Pike's Peak, Colorado	17.74	450.6	29.95	760.7	15	— 9.4	48	NW	18	8.0		0	0			0	0	Clear	
Pilot Point, Texas	29.39	746.5	30.21	767.3	56	13.3	93	SE					10n		SE			Light rain	
Pioche, Nevada					26	— 3.3	63	S	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.33	745.0	30.14	765 5	48	8.9	86	SW	8	3.6			10n		Calm	0.26	6.6	Light rain	
Port Huron, Michigan	29.36	745.7	30.04	763.0	35	1.7	80	SW	10	4.5		2ck	0	W		0	0	Clear	
Portland, Maine	29.83	757.7	29.88	758.9	33	0.6	79	S	20	8.9		0	8s		SW	0	0	Fair	
Portland, Oregon	29.66	753.4	29.73	755.1	42	5.6	87	SW	13	5.8			10n		S	0.12	3.0	Light rain	
Portsmouth, North Carolina					49	9.4	93	Calm	0	0		5c	Haze	Calm		0	0	Fair	
Prescott, Arizona	24.78	629.4	30.14	765.5	25	— 3.9	87	Calm			0	0	0			0	0	Clear	
Punta Rassa, Florida	30.27	768.8	30.29	769.4	65	18.3	84	NE	7	3.1		8ck	0	E		Inap.	Inap.	Fair	
Red Bluff, California	29.74	755.4	30.11	764.8	39	3.9	100	N	1	0.4			10n			0.09	2.3	Light rain	
Rio Grande City, Texas	29.92	760.0	30.13	765.3	69	20.6	85	SE	14	6.3			10s		SE	0	0	Cloudy	
Rochester, New York	29.31	744.5	29.94	760.5	41	5.0	74	W	25	11.2		5cs	2s	W	W	0	0	Cloudy	
Roseburg, Oregon	29.32	744.7	29.89	759.2	45.5	7.5	96	SW	6	2.7			10ks		W	1.41	35.8	Cloudy	
Sacramento, California	30.04	763.0	30.12	765.0	31	— 0.6	89	SE	6	2.7			10s		Calm	0	0	Cloudy	
St. Louis, Missouri	29.61	752.1	30.20	767.1	46	7.8	92	S	12	5.4			10n			0.02	0.5	Light rain	
St. Paul, Minnesota	29.31	744.5	30.19	766.8	26	— 3.3	82	NW	6	2.7		8ck	0	NW		0	0	Fair	
Salt Lake City, Utah	25.60	650.2	29.94	760.5	20	— 6.7	56	Calm	0	0		8k	0	W		0	0	Cloudy	
San Antonio, Texas	29.40	746.7	29.98	761.5	66	18.9	95	SE	3	1.3			10ks		SE	0.12	3.0	Cloudy	
San Diego, California	29.99	761.7	30.06	763.6	45	7.2	76	N	4	1.8		0	0			0	0	Clear	
Sandusky, Ohio	29.46	748.3	30.15	765.8	43	6.1	92	SW	13	5.8			10s		SW	0.04	1.0	Cloudy	
Sandy Hook, New Jersey	30.07	763.8	30.11	764.8	39	3.9	82	SW	20	8.9		0	8s		W	0	0	Fair	
San Francisco, California	30.08	764.0	30.15	765.8	42	5.6	91	NE	2	0.9			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.27	591.0	29.80	756.9	19	— 7.2	54	NE	7	3.1		0	0			0	0	Clear	
Savannah, Georgia	30.32	770.1	30.41	772.4	58	14.4	94	N	1	0.4			Fog		Calm	0	0	Foggy	
Shreveport, Louisiana	29.99	761.7	30.21	767.3	60	15.6	94	SE	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Silver City, New Mexico																			
Smithville, North Carolina	30.34	770.6	30.38	771.6	54	12.2	93	NE	4	1.8		1k	Fog	Calm		0	0	Clear	
Socorro, New Mexico	25.45	646.4	29.51	749.5	31	— 0.6	79	N	6	2.7		0	0			0	0	Clear	
Springfield, Illinois	29.50	749.3	30.19	766.8	44	6.7	88	S	3	1.3			Fog		Calm	0.44	11.2	Light rain	
Springfield, Massachusetts	29.80	756.4	30.04	763.0	38	3.3	72	S	7	3.1			10s		SW	0	0	Threatening	
Stockton, Texas	27.20	690.9	30.20	767.1	40	4.4	10	N	4	1.8			10n		E	0.04	1.0	Light rain	
Thatcher's Island, Mass.	29.89	759.2	29.93	760.7	41	5.0	74	SW	30	13.4		5ck	5s	W	SW	0	0	Cloudy	
Toledo, Ohio	29.41	747.0	30.11	764.8	41	5.0	91	W	12	5.4			10s		SW	0.03	0.8	Cloudy	
Tucson, Arizona																			
Umatilla, Oregon	29.56	745.7	29.86	758.4	32.5	0.3	94	SE	4	1.8		0	2s		Calm	0	0	Fair	
Uvalde, Texas	29.12	739.6	29.93	760.2	63	17.2	80	E	5	2.2			10s		SE	0	0	Cloudy	
Vicksburg, Mississippi	30.06	763.5	30.32	770.1	59	15.0	94	SE	9	4.0			10s		S	0.01	0.3	Cloudy	
Virginia City, Montana	23.96	608.6	29.44	747.8	30	— 1.1	68	SE	5	2.2			10s		Calm	0	0	Cloudy	
Visalia, California	29.71	754.6	30.10	764.5	30	— 1.1	94	E	1	0.4			Fog			0	0	Light fog	
Washington, D. C.	30.09	764.3	30.21	767.3	41	5.0	82	SW	7	3.1			10s		Calm	0	0	Cloudy	
Wickenburg, Arizona					37	2.8	81	W			1	0	0			0	0	Clear	
Wilmington, North Carolina	30.29	769.4	30.38	771.6	45	7.2	92	Calm	0	0		0	Fog		Calm	0	0	Clear	
Winnemucca, Nevada	25.55	647.9	29.87	758.7	40	4.4	56	SW	16	7.2			9s		SW	0	0	Cloudy	
Wood's Holl, Massachusetts	30.03	762.7	30.06	763.5	47	8.3	62	SW	16	7.2			10s			0	0	Cloudy	
Yankton, Dakota	28.88	733.5	30.22	767.6	20	— 6.7	85	N	3	1.3		0	0			0	0	Clear	
Yuma, Arizona	29.88	758.9	30.03	762.7	62	11.1	41	N	2	0.9		0	0			0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	30.11	764.8	30.16	766.1	73	22.8	71	Calm	0	0		0	8ks		NE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	76	24.4	83	Calm	0	0		5ck	0	Calm		0	0	Fair	James Gall.
Navassa, W. I.	29.92	760.0	30.00	762.0	78	25.6	73												F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.98	761.5	29.98	761.5	80	26.7	87	NE			2	5k	8ks	NE		0.800	20.32	⅛ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.06	763.5	30.08	764.0	75	23.9	76	N	6	2.7		0	4s		NE	0	0		Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.91	759.7	29.97	761.2	—29.0	—33.9		W	18	8.0		0	0			0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2653 4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,600 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.06 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.3 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.†	30.31‡	769.9‡			63	17.2	94	SE	5	2.2			8		NE					Fair.	
Navy Yard, Portsmouth, N.H.	30.05‡	763.3‡			37	2.8	71	SW	2	0.9			2							Clear.	
Naval Hospital, Yokohama, Japan	29.98‡	761.5‡			42.5	5.8	79	N			2		10n		NW	0.11	2.8			Raining	
Adams, Mare I'd., Navy Yard, Cal.	30.21‡	767.3‡			46	7.8	84	S			1		0							Clear	
Alaska, Arica, Peru*	29.87‡	758.7‡			68	20.0	90	Calm			0		2							D. clouds	
Colorado, New York, N. Y.	30.08‡	764.0‡			38	3.3	100	SW	5.3	2.4			10		WNW	0	0			Cloudy	
Constitution, Fort de France, Martinique	29.99‡	761.7‡			75	23.9	95	ENE			2		10		Calm					Showery	
Enterprise, Constantinople, Turkey	30.12‡	765.0‡			50	10.0	93	SW			2		10		SSW			Mod'ate		Raining	
Franklin, Off Navy Yard, Norfolk, Va.	30.36‡	771.1‡			43	6.1	75	S	8.4	3.8			2		Calm	0	0			Clear.	
Independence, Mare I'd, Navy Yard, Cal.	30.14‡	765.5‡			42	5.6	91	Calm	0	0			0			0	0			Foggy	
Kearsarge, Balize, British Honduras	30.07‡	763.8‡			76	24.4	86	NE			2		10		NE			Smooth		Cloudy	
Lackawana, Honolulu, Sandwich Id's†	29.93‡	760.2‡			73	22.8	76	NE			1		10							Cloudy	
Marion, N. 21° 35', W. 45° 15'	30.23‡	767.8‡			75	23.9	77	E			5		8		Calm:E	Rain squalls.	Rain squalls.	Mod'ate	E	Fair	
Michigan, Erie, Pa	30.08‡	764.0‡			40	4.4	56	W			2		8		W					Cloudy	
Monocacy, Shanghai, China	30.15‡	765.8‡			34	1.1	70	WNW			1		0							Clear	
New Hampshire, Port Royal, S. C.	30.41‡	772.4‡			60	15.6	100	E	3	1.3			0			0	0			Foggy	
Nipsic, Hampton Roads, Va.	30.26‡	768.6‡			49	9.4	78	SW			4		2		W				ESE	D. clouds	
Onward, Callao, Peru †.	29.91‡	759.7‡			67	19.4	89	S			2		10					Mod'ate	W	Cloudy	
Palos, Tientsin, China	30.04‡	763.0‡			25	— 3.9	87	NW			2		0							Clear.	
Passaic, Washington, D. C.	30.22‡	767.6‡			42	5.6	91	W			1		8							Cloudy	
Pensacola, Callao, Peru	29.86‡	758.4‡			66	18.9	89	Calm			0		10					Smooth		Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.14‡	765.5‡			39	3.9	82	SW			3		8		SSW	0	0			Cloudy	
Quinnebaug, Villafranca, France	30.32‡	770.1‡			58	14.4	64	S			1		2		N					Fair	
Ranger, Honolulu, Sandwich Ids.	29.90‡	759.4‡			75	23.9	77	E			1		10							Cloudy	
Richmond, Hong-Kong, China	30.07‡	763.8‡			56	13.3	63	NE			1		0					Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.19‡	766.8‡			68	20.0	100	SSE	1	0.4		5	5	Calm	SSE	0.01	0.3			Fair	
Santee, Annapolis, Md	30.20‡	767.1‡			45	7.2	76	SW			1		10		SW	0	0			Overcast	
Shenandoah, Montivideo, Uruguay	29.84‡	757.9‡			69	20.6	75	NW			1		0					Smooth		Clear	
St. Louis, League Island, Pa.	30.19‡	766.8‡			37	2.8	81	SW	5	2.2			10		W	0	0			Cloudy	
Tennessee, Brooklyn, N. Y.	30.12‡	765.0‡			39	3.9	82	SW	7.5	3.4			9		W	0	0			D. clouds	
Trenton, Villafranca, France	30.36‡	771.1‡			60	15.6	71	SW			2		3			0	0	Smooth		D. clouds	
Tuscarora, San José, Guatemala	29.90‡	759.4‡			75	23.9	86	NW			2		2		Calm			Long	SE	Fair	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.14‡	765.5‡			37	2.8	90	WSW			2		10		WSW					Cloudy	
Wabash, Boston, Mass.	29.93‡	760.2‡			39	3.9	91	SW	21	9.4			8			0	0			Cloudy	
Wachusett, Montivideo, Uruguay.†	30.40‡	772.1‡			66	18.9	79	WNW			2		0					Smooth		Clear.	
Wyoming, Villafranca, France	30.33‡	770.4‡			64	17.8	78	S			1		2		S			Smoot	S	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.725 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, Halifax, N. S		29.97‡	761.2‡	36	2.2		SW			6		10		SW				Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford, Philadelphia, Pa.†		30.12‡	765.0‡	38	3.3	81	WNW			1		10		WNW				Cloudy	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, N. 49° 54′, W. 30° 59′		30.19‡	766.8‡	47	8.3		SW			8		7		SW	slight	High	NNW	Stormy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 40° 35′, W. 60° 46′		30.24‡	768.1‡	43	6.1	75	WSW	21	9.4			5k		W		Mod'ate	WSW	D. clouds	
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 46° 03′, W. 41° 42′		29.58‡	750.0‡	40.0	4.4	100	NW			7		10		NW	6 h'rs	Heavy	sw; NW	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 50° 46′, E. 0° 47′		30.28‡	767.8‡				SW			6		10		SW		Rough	W	Raining	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 33° 56′, E. 137° 26′		29.80‡	756.9‡	55	12.8		NNE			8		n		NW	Light	Mod'ate	NW	Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.

S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio																			E. LeLack.
S. S. Colima, R. R. Searle																			F. S. Doane.
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Z alandia, R. C. Ghest.																			
S. 33° 58′, E. 159° 26′		30.19‡	764.8‡				E			4				E		Smooth	E	Fine	

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

RED STAR LINE MARINE SERIES.

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

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heeale, B. F. Woodbury.																			
S. 8° 17′, W. 32° 01′		29.86‡	758.4‡	60.5	26.9		ESE			1		0				Smooth	SE	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

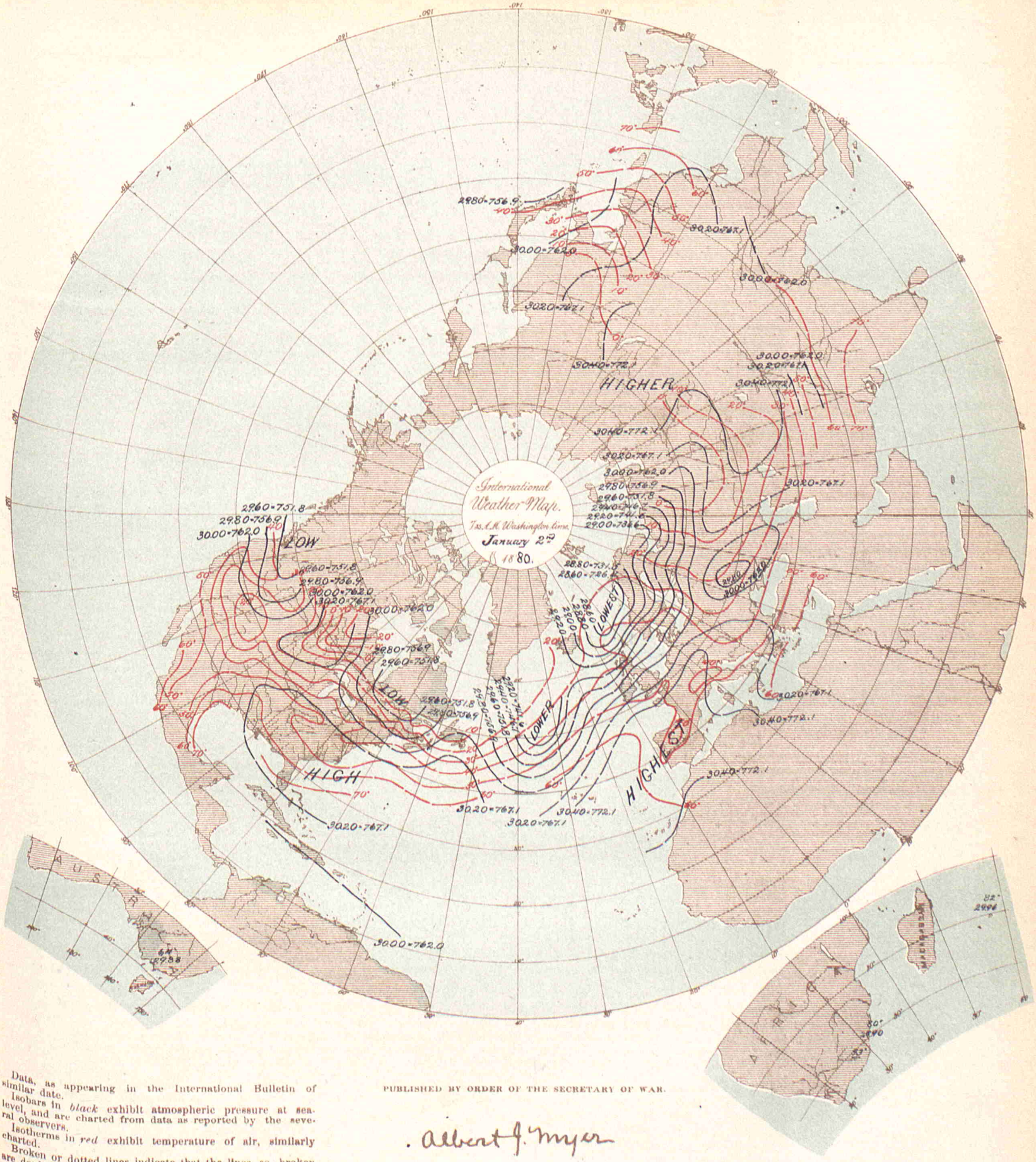
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 3, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.50	774.7	56.5	13.6		NE			3		2			0	0	Fair	
Nemours			30.47	773.9	60.4	15.8	83	WNW			1		4			0	0	Cloudy	Kesxuche.
Algiers			30.47	774.0	57.6	14.2	71	N			2		4			0	0	Cloudy	Tourillere.
La Calle			30.43	772.8	59.0	15.0	77	WNW			2		4			0	0	Cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.43	772.9															Gau.
Saida			30.50	774.8															Herbin.
Tebessa			30.47	773.8	48.6	9.2	63	NNW			1		8			0.004	0.1	Very cloudy	Watrin.
Geriville								N			1		0			0	0	Clear	Brugniaux.
Laghouat			30.49	774.5	52.5	11.4	44	ENE			2		2			0	0	Fair	Bertrand.
Biskra			30.43	772.8	64.4	18.0	78	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.75	755.6	30.32	770.2	38.3	3.5	83	N			2		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.39	746.5	30.19	766.7	38.5	3.6	93	W	7.8	3.5			8			0.098	2.5		Dr. Wierzbicki.
Eperies	29.20	743.3	30.19	766.8	32.9	0.5	100	Calm			0		10			0	0		Julius Mikolik.
Gratz	29.04	737.5	30.36	770.8	37.2	2.9	83	ESE			2		3			0	0		Andreas Rospini.
Hermannstadt	28.76	730.6	30.26	768.5	37.0	2.8	100	E			1		10			0	0		Prof. A. Gottschling
Kremsmünster	29.00	736.7	30.40	772.2	38.7	3.7	93	SSW			2		10			0.055	1.4		Prof. C. Wagner.
Lemberg	29.04	737.5	30.06	763.4	37.0	2.8	93	SW			1		10			0.110	2.8		Dr. T. Stanecki.
Pola	30.21	767.4	30.33	770.4	43.3	6.3	90	WNW			1		7			0	0		I.R.Hydrographic Office
Szathmar	29.78	756.4	30.27	768.8	34.9	1.6	89	E			2		10			0.063	1.6	Raining	Pet. Pancsics, S. J.
Szegedin	30.01	762.2	30.30	769.6	39.6	4.2	90	W			1		10			0	0		Karl Stancel.
Trieste	30.25	768.3	30.35	770.9	42.8	6.0	90	Calm			0		0			0	0	Foggy	P. Busin.
Vienna	29.58	751.2			42.8	6.0		W			4					0.020	0.5		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels	30.25	768.4	30.46	773.7	44.8	7.1	77	W			2	2		NW		0	0		Royal Observatory
Furnes	30.46	773.7	30.48	774.3	45.5	7.5	79	W			3		3			0	0		M. E. de Cae.
Maeseyck	30.31	769.8	30.43	773.0	44.8	7.1	81	W			2		3			0	0		M. Pierrot.

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.04	763.0	30.14	765.5	43.2	6.2	.....	WSW	7	3.1	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.21	767.3	30.23	767.8	46	7.8	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	Wm.McNeil & G.Carrick
Armagh, (Observatory)	30.06	763.5	30.29	769.4	44.0	6.7	.....	SSW	14	6.3	.....	.....	8	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.38	771.6	47 0	8.3	.....	WSW	17	7.6	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	29.83	757.7	30.36	771.1	43.9	6.6	.....	WSW	6	2.7	.....	.....	9	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.94	760.5	30.34	770.6	45.1	7.3	.....	SW	.....	.....	3	.....	10	.....	.....	0.01	0.3	Overcast.....	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.34	770.6	30.43	772.9	48.5	9.2	.....	WSW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	H. Todd.
Cardington	.....	.....	30.42	772.7	45.0	7.2	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham (School M. E.)	30.39	771.9	30.52	775.2	48.1	8.9	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	J. Carmell, Sapper, R.E.
Donaghadee	30.27	768.8	30.31	769.9	46	7.8	.....	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.45	773.4	30.48	774.2	44	6.7	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	¾ clouded...	J. Costello.
Falmouth (Observatory)	30.29	769.4	30.53	775.4	49.7	9.8	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, Natal	27.60	701.0	29.81	757.2	86.0	30.0	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.55	750.6	44	6.7	.....	SW	.....	.....	5	.....	10	.....	.....	0	0	Overcast.....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.00	762.0	30.20	767.1	45.9	7.7	.....	SW	.....	.....	3	.....	4	.....	.....	.....	.....	Misty.....	D. G. Maclean. [C.
Great Yarmouth	30.36	771.1	30.36	771.1	44	6.7	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.30	769.6	30.48	774.2	46.5	8.1	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	30.32	770.1	30.54	775.7	48.5	9.2	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S.E.Hoskins, F.R.S.
Helston	30.60	777.2	30.73	780.5	50	10.0	.....	NW	.....	.....	2	3c	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.33	770.4	30.58	771.6	47	8.3	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	30.30	769.6	30.60	777.2	47.8	8.8	.....	WSW	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew (Observatory)	30.45	773.4	30.49	774.4	47.0	8.3	.....	W	10	4.5	.....	.....	2	.....	.....	.....	.....	.....	The Met'g'l Office.
Leicester (Museum)	30.15	765.8	30.41	772.4	44.9	7.2	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.20	767.1	30.28	769.1	58.6	14.8	.....	NE	.....	.....	2	1ck	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.91	759.7	30.00	762.0	45	7.2	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.25	768.3	73.5	23.1	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	30.23	767.8	30.42	772.7	44.8	7.1	.....	SSW	.....	.....	3	8c;ck	.....	.....	WNW	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.89	759.2	30.43	772.9	43.0	6.1	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.44	773.2	30.51	774.9	46.8	8.2	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	John Merrifield.
*Roche's Point	30.32	770.1	30.40	772.1	46	7.8	.....	WSW	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	30.28	769.1	30.45	773.4	48	8.9	.....	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.02	762.5	43.4	6.3	.....	W	23	10.3	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.17	766.3	30.24	768.1	41.6	5.3	.....	NNE	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds.....	Serg't W. H. Lyne.
Sheffield	30.11	764.8	30.40	772.1	46.5	8.1	.....	SW	.....	.....	3	.....	6	.....	.....	0	0	D clouds.....	W. F. Cooper.
Silloth Rectory	30.25	768.3	30.28	769.1	44.8	7.1	80	SW	.....	.....	4	.....	6	.....	.....	0.146	3.71	D. clouds.....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.35	770.9	44.2	6.8	.....	WSW	19	8.5	.....	.....	9	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Strathfield, Turgiss	.....	.....	.....	.....	44.3	6.8	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.52	775.2	53	11.7	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.30	769.6	30.33	770.4	49.6	9.8	.....	SSW	37	16.5	.....	.....	10	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.86	758.4	29.90	759.4	75.4	24.1	66	W	8.4	3.8	.....	0	2	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.54	648.7	.....	.....	97	36.1	.....	NW	.....	.....	.....	0	0	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	80	26.7	.....	W	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.47	774	63.5	17.5	.....	SE	.....	.....	Inc'g	.....	Slight	.....	.....	Slight	Slight	Fine.....	Horace Witherell.
Leith (Restalrig Park) Sc't'l'd	.....	.....	30.20	767.1	44.9	7.2	.....	W	.....	.....	2	.....	7k	.....	.....	0.02	0.5	Cloudy.....	C. Meldrum.
Mauritius (Observatory)	29.72	754.9	29.90	759.6	81	27.4	53	SE	24.0	10.7	.....	1	2	.....	ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	59.0	15.0	75	SE	8	3.6	.....	.....	1	.....	.....	0	0	Very fine....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.02	762.5	48	8.9	.....	W	.....	.....	6	10	5	W	.....	0.2	5.	.....	.....
North Unst, Shetland Is	.....	.....	29.74	755.4	.....	.....	.....	W	.....	.....	7	3	5	S	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.20‡	741.7‡	59.8	15.4	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 45° 45′, W. 27° 30′	.....	.....	30.17	766.3	53	11.7	.....	WSW	.....	.....	4	.....	4	.....	.....	6	Confused	D. clouds.....	Capt. A. J. Brown
City of Cashmere, S. 42° 18′, W. 126° 40′	.....	.....	29.76‡	755.9‡	57.8	14.3	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Capt. W. M. Grieve.
Barque Commewyne, N. 30° 20′, W. 59° 05′	.....	.....	30.15‡	765.8‡	76.5	24.7	.....	ENE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. Jas. Buchan.
S. S. Ethiopia, N. 43° 55′, W. 55° 40′	.....	.....	29.80	756.9	39	3.9	.....	WNW	.....	.....	6	.....	9	.....	.....	5	W	Snowing.....	Capt. Campbell.
Barque Fedalma, N. 37° 15′, W. 50° 20′	.....	.....	30.08	764.0	61	16.1	.....	WSW	.....	.....	6	.....	5	.....	.....	3	WNW	Showery.....	Capt. H. L. Fox.
S. S. German, S. 11° 30′, W. 1° 58′	.....	.....	29.98‡	761.5‡	75	23.9	.....	SE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Peruvian, N. 53° 10′, W. 10° 40′	.....	.....	29.92	760.0	52	11.1	.....	SSW	.....	.....	1	.....	7	.....	.....	7	.....	Squally	Capt. W. H. Smith.
S. S. Strathleven, N. 8° 00′, E. 58° 30′	.....	.....	29.78‡	756.4‡	75.0	23.9	.....	N	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 48° 10′, W. 23° 00′	.....	.....	30.11	764.8	54	12.2	.....	W	.....	.....	6	.....	8	.....	.....	6	W	D. clouds.....	Capt. C M. Dobson.
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NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759 4	61.2	16.2	79	NE			2		0			0	0		Federico Maisen.

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

DANISH SERIES.

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

Copenhagen	29.66	753.4	29.71	754.6	40.8	4.9	81	NW			6		0						
Faröe	29.91	759.8	29 93	760.3	41.9	5.5	88	W			6		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.05	737.9	29.10	739.0	32.7	0.4	98	SE			7		8						
Thorshavn (Faröe)	29.88	758.9	29.91	759.8	32.7	0.4	87	NW			2		10						
Vestervig	29.69	754.0	29.80	756.8	41.0	5.0	74	WNW			7		3						

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

FRENCH SERIES.

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

Alençon, Normal School	30.06	763.4	30.01	777.4	41.0	5	97	WNW			1		0			0.031	0.8	Clear	Collignon, Director.
Amiens, Normal School	30.38	771.7	30.49	774.5	47.8	8.8	78	WNW			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.24	768.1	30.51	774.9	44.2	6.8	88	NW			3		k			0.051	1.3		Klein, Commandant.
Avignon, Normal School	30.30	769.7	30.38	771.7	52.3	11.3	54	N			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.01	762.2	30.59	777.0	43.9	6.6	76	N			1		5kn		NNW	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	30.29	769.3	30.57	776.4	45.5	7.5	83	WSW			2		2		WNW	0.030	0.75	Slightly cl'd'y	Frère Eugene Marie.
Besançon, Normal School	29.69	754.0	30.63	777.9	42.1	5.6	93	SSW			1		10		SW	0.043	1.1	Covered	A. Carré, Director.
Bordeaux	30.39	771 1	30.56	776.1	49.6	9.8	56	NNE			1		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.70	754.3	30.62	777.8	43.2	6.2	93	N			3		10			0	0	Foggy	Mariot, Director.
Bourges, Normal School	30.04	763.0	30.62	777.7	45.0	7.2	91	W			1		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.36	771.2	30.61	777.4	51.8	11.0	84	Calm			0		0			0.069	1.75		Ch. de Kermaree, Dir.
Caen, Normal School	30.46	773.6	30.54	775.6	48.6	9.2	81	W			1		1		SSW	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	30.01	762.3	30.43	773.0	51.8	11	57	W			2		6			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.25	768.4	30.59	777.0	39.4	4.1	93	SW			2		10	SW	SW			Covered	Jadot, Director
Chartres, Normal School	29.89	759.3	30.50	774.7	33.4	0.8	96	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.16	740.6	30.56	776.3	45.3	7.4	91	W			1		10			0	0		Alluard, Director.
Commercy, Normal School	29.69	754.1	30.63	778.1	41.4	5.2	87	W			1		5kn	W	W	0.138	3.5	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.24	742.7	30.39	771.8	51.3	10.7	63	N			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.76	756.0	30.57	776.4	42.6	5.9	38	E			1		2ck		N	0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.36	771.0	30.58	776.7	48.2	9.0	92	NE			1		10			0.106	2.7	Covered	Moullot, Director.
Le Mans, Normal School	30.31	769.9	30.64	778.2	40.1	4.5	97	NNE			1		10			0.067	1.7	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.59	751.6	30.55	775.9	42.6	5.9	91	SE			1		10			0.008	0.20	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.54	774.9	30.62	777.7	44.6	7.0	91	NE			1				NE	0.339	1.0		Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.93	760.2	30.56	776.2	47.3	8.5	72	N			1		8			0	0	Very cloudy	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.08	763.9	30.35	770.9	50.4	10.2	61	SW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.50	749.3	30.00	777.1	40.1	4.5	90	WNW			3		10kn	NW	NW	0	0	Covered	Barbier, Director.
Mont-Louis	25.18	639.5	30.49	774.5	47.3	8.5	17	NW	11.2	5.0			2		W	0	0		M. Cave
Nice	30.33	770.3	30.36	771.1	52.9	11.6	76	NW			1		1	NW	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.19	766.7	30.38	771.7	56.7	13.7	57	N			4		2c		N	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.29	769.3			47.3	8.5	74	W			1				NW	0.016	0.4		Marié Davy, Director.
Perpignan	30.31	769.9	30.43	772.8	55.0	12.8	42	NW	11.2	5.0			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.70	578.9			40.8	4.9									NE	0	0		Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.38	746.2	30.47	774.0	49.6	9.8	66	NE			1		1	NE	NE	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.53	648.4			32.6	0.3	98	N			2					0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.57	776.4	30.60	777.2	48.2	9.0	100	S			1			S	S	0	0	Misty	Lt. E. Decante, Director
Rouen, Normal School	30.47	774.0	30.56	776.2	44.4	6.9	85	SW			1		0			0.067	1.7	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.55	775.9	30.58	776.7	51.3	10.7	68	SW			1		1	SW	SW	0.134	3.40	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.41	772.4	30.58	776.6	45.0	7.2	83	SSW			1		1		N	0.012	0.3	Clear	E. Renou, Director.
Tarbes, Normal School	29.41	747.0	30.52	775.1	50.0	10	61	E			3					0	0		T. Huguet, Director.
Toulouse, Observatory	29.84	757.9	30.58	776.6	47.7	8.7	66	NW			1		0			0	0	Clear	M. Juher Mercadier.
Tours	30.43	772.8	30.62	777.8	44.2	6.8	85	NE			1		2		W	0.091	2.3	¼ covered	Cousin-Marquet.
Versailles, Observatory	30.07	763.7	30.56	776.2	46.0	7.2	83	NW			1		0			0.016	0.37	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.87	758.6	30.01	777.5	44.6	7	92	SE			1		5		NW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	760.9	29.98	761.6	77.4	25.2										0.98	25.		L'Abbé Marchést
Zi-Ka-Wei (near Shanghai)	30.26	768.6	30.28	769.2	26.4	-- 3.1	74	W	3.1	1.4			0			0	0	Clear	Marc Dechevrons.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.815 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.50	749.2	30.37	771.3	40.1	4.5	78	W			6		4k	W		0.039	1.0		Prof. Dr. Hoh.
Berlin	29.90	759.4	30.08	763.9	41.7	5.4	78	NW			6		10			0.094	2.4		Prof. Dr. Arndt.
Breslau	29.62	752.4	30.15	765.9	42.1	5.6	68	W			5		4	NW		0.089	2.26		Royal University Obs'y.
Carlsruhe	30.04	763 0	30.48	774.3	46.0	7.8	80	SW			2		5	W		0	0		Albert Senz.
Cassel	29.72	755.0	30.34	770.6	42.1	5.6	79	NW			6		10	WSW		0.053	1 34	Raining	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel
Frankfort on the Main	30.13	765.4	30.52	775.2	43.3	6.3	63	W			3		8			0.008	0.2		Physical Society.
Friedrichshafen	29.06	738.1	30.56	776.1	42.3	5.7	83	S			1		10	WSW		0	0	Föhn	Chief Telegrapher Wilhelm.
Hamburg	30.04	763.0	30.11	764.8	41.4	5.2	84	W			5		5			0.028	0.7		Dr. Reinhold Kleeman.
Kiel	29.98	761.5	30.00	761.9	41.9	5.5	82	W			6		2			0.025	0.64		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.62	752.3	29.70	754.4	36.1	2.3	87	W			8		10			0.008	0.2		Prof. E. Luther.
Köslin			29.83	757.7	38.3	3.5		W			2		4			0	0		H. Müller.
Leipsic Observatory	29.83	757.7	30.27	768.8	41.5	5.3	74	WSW			5		9	W		0.083	2.1	Sprinkling	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.97	761.2	30.20	767.0	41.9	5.5	65	SW			4		10ks	W		0.116	0.4		Dr. Assmann.
Memel	29.60	751.9	29.65	753.1	38.1	3.4	85	WSW			6		10a					Showery	Reinbrecht & Issermann.
Munich (München)	28.58	725.8	30.47	773.8	40.6	4.8	79	W			4		10	W		0.004	0.1		Dr. C. Lang.
Neufahrwasser	29.79	756.6	29.80	757.0	36.9	2.7	87	SW			6		10			0.024	0.6	Raining	A. Lothes.
Neustadt (Palatinate)	29.94	760.4	30.47	774.0	43.2	6.2	71	W			7		4	W		0	0		Reallehrer Dicknether
Posen	29.72	754.9	30.02	762.5	39.6	4.2	80	W			6		10			0.083	2.1		Prof. Dr. Magener.
Strassburg (in Alsace)	29.99	761.7	30.56	776.2	45.7	7.6	64	SW			2		1			0.012	0.30		Imp. University Observatory.
Stuttgart	29.50	749.2	30.47	773.9	45.0	7.2	52	W			1		2	W		0	0		Prof. Dr. Schoder.
Thorn	29.77	756.2	29.96	761.0	38.8	3.8	83	SW			5		10			0.006	0.16		Dr. Cunerth.
Weissenburg (Bavaria)	28.90	734.0	30.50	774.6	40.8	4.9	71	WNW	5.6	2.5			3k		W	0.028	0.7		Reallehrer J. Hopfner
Wustrow	29.88	759.0	29.91	759.6	38.8	3.8	97	WSW			5		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 525.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.90	759.4	30.29	769.4	50.0	10.0		NE			2.0		5					½ clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.88	758.8	29.93	760.1	74.1	23.4	58	WNW	11	4.9			0			0	0	Blue sky	
Deesa	29.42	747.3	29.91	759.6	72.2	22.3	23	NW	7.8	3.5			0			0	0	Blue sky	
Bombay	29.75	755.6	29.79	756.6	73.9	23.3	57	NNW	28	12.5			2	WNW		0	0	D. clouds	
Poona (Yarrowda)	27.90	708.8	29.75	755.6	80.0	26.7	7	ESE	5	2.2			0			0	0	Blue sky	
Belgaum	27.24	691.8	29.80	756.8	70.2	21.2	13	NNW	4	1.8			0			0	0	Blue sky	
Lahore	29.15	740.3	29.93	760.2	57.4	14.1	64	Calm	0.4	0.2						0	0	Blue sky	
Roorkee	28.96	735.4	29.89	759.2	60.2	15.7	55	NW	1.5	0.7			0			0	0	Blue sky	
Agra	29.32	744.6	29.90	759.5	64.8	18.2	55	W	2.4	1.1			0			0	0		
Nagpur	28.76	730.6	29.83	757.7	66.8	19.3	41	Calm	2.0	0.9			0			0	0	Blue sky	
Jubbulpore	28.48	723.4	29.89	759.3	62.6	17.0	49	NE	2.0	0.9			0			0	0	Blue sky	
Lucknow	29.50	749.2	29.89	759.1	65.4	18.6	52	NNW	0.7	0.3			0			0	0	Blue sky	
Allahabad	29.58	751.2	29.90	759.6	60.3	15.7	74	Calm	1.1	0.5			0			0	0	Blue sky	
Patna	29.70	754.3	29.89	759.1	68.4	20.2	58	Calm	0.4	0.2			4			0	0	D. clouds	
Hazaribagh	27.79	705.9	29.86	758.5	62.0	16.7	61	NW	3.2	1.4			3					Showery	
Cuttack	29.76	755.8	29.84	758.0	69.8	21.0	81	NE	3.5	1.6			10			0.01	0.3	Overcast	
Calcutta (Alipore)	29.82	757.5	29.85	758.1	66.3	19.1	84	N	6.0	2.7			10			0	0	Overcast	
Goalpara	29.45	748.1	29.86	758.3	67.4	19.7	66	E	5.5	2.5			0			0	0	Blue sky	
Chittagong	29.74	755.4	29.83	757.7	71.8	22.1	97	E	1.3	0.6			10			0.28	7.1	Drizzling	
Sibsagar	29.56	750.7	29.90	759.6	62.5	16.9	80	ENE	1.2	0.5			2			0	0	Blue sky	

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

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.91	759.8	30.35	770.8	42.1	5.6	72	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.82	757.5	30.37	771.5	33.4	0.8	90	SW	.....	.....	0	.....	7	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.22	767.6	30.34	770.6	33.4	0.8	83	S	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.42	747.3	30.37	771.3	29.3	— 1.5	76	ENE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.16	766.0	30.36	771.1	53.6	12.0	62	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.98	720.9	30.38	771.6	46.0	7.8	47	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.30	769.5	30.35	770.8	36.7	2.6	86	NW	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.11	764.7	30.38	771.7	35.2	1.8	91	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.28	769.1	30.33	770.4	48.9	9.4	81	NE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.14	765.6	30.33	770.3	52.0	11.1	66	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.00	762.0	30.26	768.7	53.8	12.1	81	NNW	16.1	7.2	.....	.....	1	N	.....	0	0	.....	Prof. C. De Giorg.
Cosenza	29.41	746.9	30.33	770.3	51.1	10.6	70	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.13	765.4	30.34	770.5	56.3	13.5	60	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.10	764.4	30.35	771.0	57.0	13.9	62	NE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.24	768.0	30.28	769.2	54.0	12.2	66	WNW	11.2	5.0	.....	.....	2	NW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.76	755.9	30.29	769 4	54.5	12.5	71	SW	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	29.89	759.2	29.91	759.7	35.7	2.1	78	WNW	2.1	0.9	.....	.....	2ck	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.79	756.6	30.01	762 2	38.5	3.6	90	W	7.0	3.1	.....	.....	3s	.....	.....	0.430	10.92	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.61	752.1	29.98	763.9	39.6	4.2	93	NW	4.0	1.8	.....	.....	1s	.....	.....	0	0	Foggy	The Staff.
Wakayama	29.82	757.4	29.87	758.7	43.0	6.1	71	NW	4.0	1.8	.....	ck	1ks	.....	.....	0.008	0.20	Fair	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	636.9	30.28	769.0	41.9	5.5	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.47	621.4	30.25	768.4	52.0	11.1	87	NW	.....	.....	1	1s	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.77	756.2	30.04	762.9	57.2	14.0	66	W	.....	.....	2	1s	0	.....	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.08	586.1	30.25	768.4	43.3	6.3	69	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Morelia	24.10	612.0	.....	.....	58.3	14.6	60	SE	.....	.....	2	2c	0	SE	.....	0	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	23.85	605.9	29.93	760.1	45 3	7.4	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.42	772.6	42.4	5.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.17	614.0	30.31	769.8	45.3	7.4	52	SE	.....	.....	1	.....	10	.....	SE	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.00	762.0	30.01	762.3	70.2	21.2	93	S	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	29.99	761.8	30.02	762.5	70.7	21.5	86	Calm	0	0	.....	2c	3k	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.53	572.3	30.25	768.4	48.0	8.9	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.44	773.3	30.44	773.3	41.5	5.3	.....	W	.....	.....	4	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	30.18	766.6	30.24	768.0	42.3	5.7	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.29	769.3	30.29	769.3	41.0	5.0	.....	W	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.39	771.8	30.59	771.8	40.8	4.9	85	W	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.33	770.3	30.37	771.5	46.1	7.3	91	WSW	.....	.....	4	.....	2	.....	.....	0	0	Sl'tly cloudy	H. v. d. Bruk.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.56	750.7	29.61	752.1	39.2	4.0	87	NNW	28.4	12.7	.....	.....	3	.....	.....	0.319	8.1	Sleeting	
Brönö	29.03	737.4	29.07	738.4	37.8	3.2	80	NNW	27	12	.....	.....	9	.....	.....	0.012	0.3	Raining.....	
Christiana	29.16	740.6	29.30	744.3	42.4	5.8	48	WNW	18	8	.....	.....	0	.....	.....	0	0	.....	
Tromsö	28.64	727.6	28.69	728.7	35.2	1.8	82	NW	7	3	.....	.....	10	.....	.....	0.449	11.4	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.47	748.6	30.52	775.1	46.4	8.0	64	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.45	773.4	30.54	775.8	64.2	17.9	60	E	6.3	2.8	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.18	766.6	30.55	776.0	53.1	11.7	77	S	2.5	1.1	.....	.....	6	W	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.37	771.4	30.44	773.2	63.3	17.4	86	SW	22.4	10.0	.....	.....	10	.....	.....	0	0	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swel. Height scale 0-9	Sea or swel. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. ' Sande, Com'd't.
Dique da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.																		
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	75.2	24.0	.....	NE	.....	.....	3	.....	7	.....	NE	2	NE	D. clouds..... T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando, Gulf of Guinea.	.....	.....	29.90	759.4	82.0	27.8	.....	WNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds..... F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.28	769.0	59.0	15.0	.....	NW	.....	.....	2	.....	0	.....	.....	2	N	Blue sky..... J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.16	740.6	29.18	741.1	23.7	— 4.6	93	SSE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.14	765.6	30.06	763.5	25.7	— 3.5	95	NW	2	1	.....	10ep	.....	.....	.....	Blank	Blank	Heavy clouds...	Capt. Wisganow.
Barnaul	29.81	757.2	30.35	771.0	13.1	—10.5	100	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.24	742.6	29.48	748.9	33.8	1.0	94	SW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weilrauch.
Ekaterinburg	29.13	739.8	30.18	766.6	5.9	—14.5	94	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.92	759.9	30.22	767.5	3.7	—15.7	87	S	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.33	744.9	30.00	762.0	25.9	— 3.4	80	SSW	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Krotkowo*	29.70	754.3	30.23	767.9	— 2.9	—19.4	81	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.92	760.0	30.15	765.7	14.7	— 9.6	78	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.33	745.0	29.91	759.8	20.1	— 6.6	79	S	7.3	3.5	.....	.....	10s	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nertchinsk	27.72	704.2	30.35	771.0	—14.4	—25.8	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.21	767.3	30.28	769.1	27.3	— 2.6	77	Calm	0	0	.....	8ck	.....	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	29.82	757.3	30.22	767.5	31.8	— 0.1	96	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.09	764.3	30.23	767.9	17.1	— 8.3	41	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.39	746.5	29.41	746.9	34.9	1.6	85	SSW	16	7	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.52	724.4	30.21	767.3	23.4	— 4.8	100	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.54	725.0	30.02	762.4	36.1	2.3	70	Calm	0	0	.....	8c	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.53	750.1	29.97	761.2	36.1	2.3	91	WSW	20	9	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	744.9	29.76	755.9	36.1	2.3	84	SW	7	3	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.16	766.0	30.49	774.4	— 9.2	—22.9	82	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.34	770.6	30.45	773.3	52.5	11.4	38	SSW	2.5	1.1	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.47	773.8	30.52	775.3	48.9	9.4	72	SW	2.3	1.03	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.47	697.7	.....	.....	31.1	— 0.5	90	W	2.0	0.87	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.19	716.1	30.54	775.8	39.6	4.2	75	SE	0.7	0.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.33	770.4	30.48	774.3	55.0	12.8	54	WSW	1.7	0.75	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.54	750.3	30.46	773.7	53.2	11.8	71	SW	1.3	0.6	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.11	764.7	30.17	766.4	70.8	21.6	83	E	1.8	0.8	.....	0	1ks	.....	E	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.81	757.2	29.86	758.5	80.4	26.9	72	N	0	0	.....	.....	1s	.....	E	0.039	1.0	Fair.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.41	772.5	30.52	775.1	52.0	11.1	60	Calm	0	0	.....	1	1	W	N	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.00	762.1	30.10	764.4	76.3	24.6	87	E	2.2	1.00	.....	5ck	3kn	E	E	0.049	1.25	Cloudy.....	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.82	732.0	28.86	733.0	28 8	— 1.8	.....	SW	.....	.....	2	.....	5	.....	.....	0.709	18.0	.....	
Umea	28.93	734.9	28.98	736.2	22.3	— 5.4	90	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	28.97	735.9	29.02	737.2	30.9	— 0.6	85	SSW	.....	.....	2	.....	2	.....	.....	0.016	0.4	.....	
Stockholm	29.06	738.1	29.21	742.6	37.8	3.2	83	WSW	.....	.....	4	.....	10	.....	.....	0.008	0.2	Light rain...	
Wisby	29.33	744.9	29.39	746.4	38.1	3.4	83	WSW	.....	.....	7	.....	7	.....	.....	0.031	0.8	.....	
Sub-Series.																			
Upsala	29.07	738.4	29.16	740.6	37.4	3.0	86	SW	12.8	5.7	.....	.....	8	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.12	739.6	30.01	777.4	34.9	1.6	99	NE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.87	733.3	30.55	776.0	41.7	5.4	80	W	.....	.....	1	.....	9	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.9 mm.; Thermometer, +0.1 Cent.; Relative Humidity, +19 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.32	770.1	40.1	4.5	70	N	9	4.0	.....	.....	3	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	55.0	12.8	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.82	757.4	51.8	11.0	78	WNW	.....	.....	2	.....	10n	.....	W	0.87	22.1	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	30.32	770.1	30.33	770.4	11.6	—11.3	.....	NW	9	4.0	.....	.....	.....	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	30.29	769.4	30.36	771.1	13.9	—10.1	82	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.14	765.5	30.18	766.6	17.5	— 8.1	97	N	24	10.7	.....	.....	10n	.....	.....	0.03	0.8	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	30.42	772.7	30.64	778.2	0.1	—17.7	100	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Smith, M. A.
Dalhousie, N. B	30.22	767.6	30.40	772.1	7.5	—13.6	.....	W	4	1.8	.....	0	2ks	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.52	775.2	30.54	775.7	2.5	—16.4	48	N	20.0	8.9	.....	0	2s	.....	.....	0	0	Clear.	J. McWilliams.
Fredericton, N. B	30.33	770.4	30.40	772.1	11.1	—11.6	72	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	28.66	727.7	29.50	749.3	23.0	— 5.0	86	S	18	8.0	.....	2c	2ks	SW	.....	0	0	Fair.	James Stewart.
Granton, Ontario	29.27	743.4	30.46	773.7	22	— 5.6	.....	Calm	.....	.....	0	3cs	0	.....	.....	0.30	7.6	Clear.	James Grant.
Halifax, N. S	30.04	763.0	30.18	766.6	26.3	— 3.2	92	NW	16	7.2	.....	.....	10ks	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	30.16	766.1	30.56	776.2	22.7	— 5.2	99	E	.....	.....	1	5cs	0	W	.....	0	0	Fair.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.25	768.3	30.63	778.0	6.0	—14.4	82	NE	10	4.5	.....	2c	0	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	30.16	764.5	30.14	765.5	14.7	— 9.6	88	NE	10	4.5	.....	9k	0	N	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	30.44	773.2	30.67	779.0	3.7	—15.7	56	N	3	1.3	.....	0	0	.....	.....	0	0	Fair.	C. H. McLeod, C. E.
Moose Factory, Ontario	29.44	747.8	29.48	748.8	—14.7	—25.8	89	S	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Cloudy	J. R. Nelson.
Norwood	29.80	756.9	30.58	776.7	8.3	—13.2	98	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.76	755.9	30.53	775.4	11.6	—11.3	70	E	12	5.4	.....	2ck	2ks	W	W	0	0	Fair.	Rev. R. Mosley.
Peterboro, Ontario	29.78	756.4	30.58	776.7	28.6	— 1.6	82	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.74	755.4	30.48	774.2	25.0	— 3.9	87	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	H. Morgan.
Port Stanley, Ontario	29.75	755.6	30.44	773.2	26.2	— 3.2	.....	E	8	3.6	.....	2ck	0	W	.....	0	0	Fair.	M. Payne.
Quebec, Quebec	30.22	767.6	30.58	776.7	— 1.0	—18.3	69	N	.....	.....	3	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.38	771.6	30.56	776.2	13	—10.6	81	N	15	6.7	.....	0	0	.....	.....	0.01	0.3	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.67	753.6	30.45	773.4	16.1	— 8.8	86	SE	12	5.4	.....	1cs	0	.....	.....	0	0	Fine.	K. Stewart.
Stratford, Ontario	29.07	738.4	30.44	773.2	26.0	— 3.3	90	E	12.5	5.6	.....	3ck	8s	NW	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.98	761.5	30.02	762.5	18.4	— 7.6	78	NW	13	5.8	.....	2k	1ks	NW	.....	0	0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	30.13	765.3	30.54	775.7	25.2	— 3.8	78	E	13	5.8	.....	.....	10ks	.....	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	30.18	766.6	30.27	768.8	34.0	1.1	89	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram, M. A
Woodstock, Ontario	29.32	744.7	30 48	774.2	19.9	— 6.7	91	E	11	4.9	.....	3k	6s	W	.....	0	0	Cloudy	Prsfessor Wolverton.
Yarmouth, N. S	30.22	767.6	30.29	769.4	24.3	— 4.3	73	N	21	9.4	.....	0	2s	.....	.....	0	0	Clear.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.45	748.0	29.72	754.9	22	— 5.6	86	N	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.72	754.9	24.8	— 4.0	.....	N	.....	.....	3	cs	n	.....	.....	0	0	Cloudy	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.36	771.1	30.01	777.5	18	7.8	68	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.64	752.8	30.33	770.4	28	— 2.2	77	SE	27	12.1	.....	.....	8s	.....	S	0	0	Cloudy.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.23	742.4	30.40	772.1	55	12.8	80	SE	8	3.6	.....	0	2s;sm	.....	Calm	0	0	Fair.	
Atlantic City, New Jersey	30.50	774.7	30.51	774.9	45	7.2	84	N	8	3.6	.....	8c	0	Calm	.....	0.09	2.3	Fair.	
Augusta, Georgia	30.24	768.1	30.45	773.4	47	8.3	92	S	4	1.8	.....	2cs	Fog	SW	Calm	0	0	Fair.	
Baltimore, Maryland	30.48	774.2	30.53	775.4	45	7.2	53	N	5	2.2	.....	10k	0	NW	.....	Inap.	Inap.	Cloudy.	
Barnegat, New Jersey	30.48	774.2	30.50	774.7	33	0.6	89	N	6	2.7	.....	2c	2s	W	W	0.01	0.3	Fair.	
Bismarck, Dakota	27.74	704.6	29.59	751.6	23	— 5.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.56	725.4	29.87	758.7	55	12.8	100	.....	.....	.....	1	.....	10n	.....	E	2.20	55.9	Light rain.	
Boise City, Idaho	27.06	687.3	30.02	762.5	38	3.3	72	SE	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.	
Boston, Massachusetts	30.34	770.6	30.51	774.9	25	— 3.9	40	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Brackettville, Texas	28.83	732.3	29.88	758.9	56	13.3	94	W	9	4.0	.....	.....	10s	.....	Calm	3.58	90.9	Threatening	
Breckenridge, Minnesota	28.55	725.2	29.55	750.6	33	0.6	89	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Brownsville, Texas	30.04	763.0	30.09	764.3	73	22.8	90	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.	
Buffalo, New York	29.75	755.6	30.50	774.7	27	— 2.8	76	E	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.32	770.1	30.65	778.5	8	—13.3	78	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Cairo, Illinois	29.89	759.2	30.28	769.1	57	13.9	87	S	12	5.4	.....	2ck	2s	S	S	0	0	Fair.	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.40	772.1	30.41	772.4	54	12.2	93	N	6	2.7	.....	2c	Haze	NW	.....	0	0	Clear.	
Cape Henry, Virginia	30.26	768.6	30.28	769.1	50	10.0	79	NE	10	4.5	.....	2cs	2s	E	E	0	0	Fair.	
Cape Lookout, N. Carolina	30.40	772.1	30.42	772.7	48	8.9	100	NW	4	1.8	.....	5cs	Fog	W	Calm	0	0	Light fog.	
Cape May, New Jersey	30.48	774.2	30.51	774.9	38	3.3	63	N	11	4.9	.....	5ck	0	NW	.....	0.13	3.3	Fair.	
Castroville, Texas	29.20	741.7	29.90	759.4	57	13.9	.....	E	6	2.7	.....	.....	10n	.....	Calm	2.08	52.8	Heavy rain.	
Cedar Keys, Florida	30.33	770.4	30.35	770.9	64	17.8	94	E	8	3.6	.....	0	9s	.....	E	0	0	Cloudy.	
Charleston, South Carolina	30.27	768.8	30.33	770.4	55	12.8	87	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.56	750.8	30.40	772.1	45	7.2	92	NW	4	1.8	.....	2c	Fog	Calm	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.58	751.3	30.42	772.7	45	7.2	92	Calm	0	0	.....	5ck	Fog	SW	Calm	0	0	Dense fog.	
Cheyenne, Wyoming	23.87	606.3	29.81	757.2	30	— 1.1	36	W	6	2.7	.....	2c	0	W	.....	0	0	Clear.	
Chicago, Illinois	29.40	746.7	30.10	764.5	45	7.2	84	SE	7	3.1	.....	.....	Fog	.....	Calm	0.33	8.4	Foggy	
Cincinnati, Ohio	29.66	753.4	30.32	770.1	54	12.2	93	SE	4	1.8	.....	1c	2s;fg	Calm	Calm	0.02	0.5	Fair.	
Cleveland, Ohio	29.60	751.8	30.36	771.1	36	2.2	71	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Coleman City, Texas	28.14	714.7	29.79	756.7	53	11.7	93	Calm	0	0	.....	.....	10s	.....	Calm	1.41	35.8	Cloudy.	
Columbus, Ohio	29.47	748.5	30.34	770.6	46	7.8	92	SE	8	3.6	.....	.....	Fog	.....	Calm	0.24	6.1	Foggy.	
Concho, Texas	28.09	713.5	29.77	756.1	53	11.7	86	SW	.....	.....	1	5k	5s	Calm	Calm	3.60	91.4	Fair.	
Corsicana, Texas	29.86	758.4	30.33	770.4	64	17.8	94	SE	8	3.6	.....	0	8ks	.....	Calm	Inap.	Inap.	Cloudy.	
Davenport, Iowa	29.36	745.7	30.00	762.0	47	8.3	92	S	12	5.4	.....	.....	10n	.....	Calm	0.25	6.3	Light rain.	
Dayton, Washington T'y	.....	.....	.....	.....	34	1.1	90	SW	.....	.....	2	.....	10s	.....	SW	0.22	5.6	Cloudy.	
Deadwood, Dakota	25.05	636.3	.....	.....	42	5.6	19	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.82	732.0	29.96	761.0	64	17.8	83	SE	16	7.2	.....	.....	10s	.....	S	0.45	11.4	Cloudy.	
Denison, Texas	29.25	742.9	30.04	763.0	60	15.6	94	SE	6	2.7	.....	2k	0	SE	.....	0.71	18.0	Fair.	
Denver, Colorado	24.63	625.6	29.86	758.4	32	0.0	50	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.99	736.3	29.86	758.4	54	12.2	87	SW	12	5.4	.....	.....	10n	.....	Calm	0.11	2.8	Light rain.	
Detroit, Michigan	29.62	752.3	30.33	770.4	32	0.0	80	E	6	2.7	.....	.....	10n	.....	Calm	0.06	1.5	Light rain.	
Dodge City, Kansas	27.29	693.2	29.57	751.1	48	8.9	85	S	14	6.3	.....	5ck	5s	SW	W	0	0	Cloudy.	
Dubuque, Iowa	29.22	742.2	29.92	760.0	42	5.6	91	SE	1	0.4	.....	.....	Fog	.....	Calm	0.27	6.9	Foggy.	
Duluth, Minnesota	29.07	738.4	29.76	755.9	32	0.0	79	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Eagle Pass, Texas	29.24	742.7	29.97	761.2	58	14.4	100	W	2	0.9	.....	.....	10s	.....	Calm	1.93	49.0	Cloudy.	
Eastport, Maine	30.29	769.4	30.37	771.4	14	—10.0	64	N	27	12.1	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	72	22.2	85	S	.....	.....	4	.....	8s	.....	Calm	0	0	Cloudy.	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.68	753.9	30.44	773.2	31	— 0.6	79	E	2	0.9	.....	5ck	0	NW	.....	0	0	Fair.	
Escanaba, Michigan	29.41	747.0	30.09	764.3	31	— 0.6	89	SE	16	7.2	.....	.....	10n	.....	SE	0.03	0.8	Light rain.	
Florence, Arizona	28.56	725.4	30.16	766.1	38	3.3	97	N	1	0.4	.....	8cs	0	Calm	.....	0	0	Fair.	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.57	700.3	29.39	746.5	35	1.7	90	W	7	3.1	.....	10cs	0	W	.....	0	0	Cloudy.	
Fort Custer, Montana	26.44	671.6	.....	.....	36	2.2	70	SE	19	8.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.16	639.0	30.12	765.0	33	0.6	89	Calm	0	0	.....	0	0	.....	.....	0.70	17.8	Clear.	
Fort Gibson, Indian Ter	29.51	749.5	30.04	763.0	58	14.4	94	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	36	2.2	63	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.46	37.1	.....	
Fort Keogh, Montana	26.92	683.8	.....	.....	29	— 1.7	67	N	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.70	703.6	29.61	752.1	53	11.7	86	W	10	4.5	.....	.....	10s	.....	W	2.23	56.6	Cloudy.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.74	730.0	29.83	757.7	60	15.6	88	SE	16	7.2	.....	.....	10s	.....	SE	0.22	5.6	Cloudy.	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	31	— 0.6	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.08	713.2	29.62	752.3	53	11.7	80	E	3	1.3	.....	.....	10s	.....	Calm	0.24	6.1	Cloudy.	
Galveston, Texas	30.05	763.3	30.09	764.3	65	18.3	94	SE	10	4.5	.....	0	Fog	.....	SE	0.02	0.5	Clear.	
Graham, Texas	28.82	732.0	29.80	758.4	60	15.6	94	SE	10	4.5	.....	2ck	5s	SW	Calm	0.93	23.6	Cloudy.	
Grand Haven, Michigan	29.48	748 8	30.14	765.5	38	3.3	100	E	9	4.0	.....	.....	10n	.....	Calm	0.45	11.4	Light rain.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	58	14.4	94	SE	18	8.0	.....	.....	10s	.....	S	0.65	16.5	Cloudy.	
Indianapolis, Indiana	29.42	747.3	30.20	767.1	54	12.2	93	SE	4	1.8	.....	.....	Fog	.....	Calm	0.36	8.9	Dense fog.	
Indianola, Texas	30.02	762.5	30.04	763.0	67	19.4	95	SE	12	5.4	.....	.....	10n	.....	SE	0.12	3.0	Light rain.	
Jacksboro, Texas	28.89	733.8	30.01	762.2	60	15.6	88	SE	14	6.3	.....	0	5s	.....	SE	0.53	13.5	Fair.	
Jacksonville, Florida	30.37	771.4	30.39	771.9	57	13.9	94	NE	3	1.3	.....	Haze	Fog	Calm	Calm	0	0	Foggy.	
Keokuk, Iowa	29.30	745.7	29.97	761.2	53	11.7	93	S	19	8.5	.....	.....	10n	.....	Calm	0.12	3.0	Light rain.	
Key West, Florida	30.19	766.8	30.22	767.6	73	22.8	72	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.42	772.7	30.44	773.2	52	11.1	100	NE	17	7.6	.....	0	Fog	.....	Calm	0	0	Clear.	
Knoxville, Tennessee	29.41	747.0	30.45	773.4	46.5	8.1	92	Calm	0	0	.....	0	Fog	.....	E	0	0	Foggy.	
La Crosse, Wisconsin	29.10	739.1	29.84	757.9	38	3.3	63	S	8	3.6	.....	.....	10n	.....	Calm	0.03	0.8	Light rain.	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	34	1.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.61	752.1	29.94	760.5	60	15.6	94	NE	9	4.0	.....	.....	10s	.....	NE	0.18	4.6	Cloudy.	
Leavenworth, Kansas	29.11	739.4	29.95	760.7	53	11.7	93	S	8	3.6	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.86	758.4	30.23	767.8	55	12.8	93	Calm	0	0	.....	10k	0	N	.....	0	0	Cloudy.	
Los Angeles, California	29.75	755.6	30.10	764.5	39.0	3.9	86	N	3	1.3	.....	5c	0	Calm	.....	0	0	Fair.	
Louisville, Kentucky	29.72	754.9	30.28	769.1	54	12.2	87	SE	4	1.8	.....	2c	Sm'e	S	Calm	Inap.	Inap.	Fair.	
Lynchburg, Virginia	29.75	755.6	30.45	773.4	50	10.0	93	Calm	0	0	.....	1cs	0	NW	.....	0	0	Clear.	
Madison, Wisconsin	28.94	735.1	29.94	760.5	40	4.4	91	SE	10	4.5	.....	.....	10n	.....	Calm	0.25	6.3	Light rain.	
Marquette, Michigan	29.29	744.0	30.02	762.5	30	— 1.1	78	SE	18	8.0	.....	.....	10ks	.....	S	0	0	Cloudy.	
Mason, Texas	28.34	719.8	30.09	764.3	56	13.3	94	E	12	5.4	.....	.....	10n	.....	Calm	1.28	32.5	Light rain.	
Memphis, Tennessee	29.92	760.0	30.26	768.6	59	15.0	81	SE	6	2.7	.....	2cs	Sm'e	Calm	.....	0	0	Clear.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.29	744.0	30.04	763.0	37	2.8	90	SE	24	10.7	.....	.....	10n	.....	Calm	0.61	15.5	Light rain..	
Mobile, Alabama	30.25	768.3	30.30	769.6	60	15.6	88	SE	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Montgomery, Alabama	30.14	765.5	30.38	771.6	53	11.7	93	SE	3	1.3	.....	5c	0	Calm	.....	0	0	Fair.....	
Morgantown, West Virginia	29.38	746.2	30.40	772.1	48	8.9	85	Calm	0	0	.....	.....	Fog	.....	Calm	0.61	15.5	Dense fog...	
Mt. Washington, N. H.	23.74	603.0	30.10	764.5	4	—15.6	87	NW	48	21.5	.....	0	0	.....	.....	0	0	Clear.	
Nashville, Tennessee	29.80	756.9	30.35	770.9	51	10.6	72	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear.	
New Haven, Connecticut	30.39	771.9	30.52	775.2	34	1.1	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
New London, Connecticut	30.45	773.4	30.51	774.9	35	1.7	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.17	766.3	30.24	768.1	62	16.7	94	E	7	3.1	.....	8c	1s	Calm	Calm	0.13	3.3	Cloudy.....	
Newport, Rhode Island	30.42	772.7	30.48	774.2	33	0.6	51	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
New River, North Carolina	.....	.....	.....	.....	50	10.0	100	N	.....	.....	1	0	Fog	.....	Calm	.....	.....	Dense fog....	
New York, New York	30.32	770.1	30.51	774.9	38	3.3	63	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Norfolk, Virginia	30.41	772.4	30.47	773.9	51	10.6	59	NE	9	4.0	.....	5cs	0	Calm	.....	0	0	Fair	
North Platte, Nebraska	26.01	683.5	29.59	751.6	21	— 6.1	86	NW	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear.	
Olympia, Washington Ter.	29.73	755.1	29.77	756.1	35.0	1.7	90	S	10	4.5	.....	.....	10s	.....	SW	1.05	26.7	Cloudy.	
Omaha, Nebraska	28.71	729.2	29.79	756.7	53	11.7	93	SW	15	6.7	.....	.....	10n	.....	Calm	0.08	2.0	Light rain...	
Oswego, New York	30.25	768.3	30.60	777.2	21	— 6.1	71	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.60	726.4	29.45	748.0	27	— 2.8	100	S	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.30	769.6	30.33	770.4	64	17.8	89	E	9	4.0	.....	8k	C	SE	.....	0	0	Fair.....	
Philadelphia, Pennsylvania	30.48	774.2	30.54	775.7	36	2.2	71	N	4	1.8	.....	5k	Sm'e	W	Calm	0	0	Fair	
Phœnix, Arizona	28.90	734.0	30.76	781.3	45	7.2	76	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.62	447.5	29.83	757.7	14	—10.0	46	W	54	24.1	.....	5cs	0	Calm	.....	0	0	Fair.....	
Pilot Point, Texas	29.24	742.7	30.06	763.5	62	16.7	88	SE	.....	.....	.....	5k	5s	SE	SE	.....	.....	Cloudy.....	
Pioche, Nevada	.....	.....	.....	.....	27	— 2.8	64	SW	4	1.8	.....	8k	0	W	.....	0	0	Fair.....	
Pittsburg, Pennsylvania	29.67	751.1	30.41	772.4	41	5.0	82	Calm	0	0	.....	.....	Fog	.....	Calm	0.55	14.0	Foggy.....	
Port Huron, Michigan	29.66	753.4	30.38	771.6	27	— 2.8	88	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Portland, Maine	30.39	771.9	30.45	773.4	27	— 2.8	64	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon	29.83	757.7	29.91	759.7	40	4.4	87	S	10	4.5	.....	.....	10n	.....	.....	0.95	24.1	Light rain...	
Portsmouth, North Carolina	.....	.....	.....	.....	51	10.6	93	NW	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Prescott, Arizona	24.79	629.6	30.15	765.8	30	— 1.1	78	S	.....	.....	1	0	5s	.....	Calm	0	0	Fair.....	
Punta Rassa, Florida	30.27	768.8	30.29	769.4	66	18.9	89	NE	9	4.0	.....	8ck	0	E	.....	9	0	Fair.....	
Red Bluff, California	29.85	758.2	30.23	767.8	40	4.4	100	N	5	2.2	.....	.....	10s	.....	S	0.29	7.4	Cloudy.....	
Rio Grande City, Texas	29.75	755.6	29.97	761.2	71	21.7	85	SE	8	3.6	.....	5cs	5s	W	Calm	0	0	Cloudy.....	
Rochester, New York	29.88	758.9	30.56	776.2	22	— 5.6	58	SE	10	4.5	.....	0	2s	.....	SE	0	0	Clear.	
Roseburg, Oregon	29.50	749.3	30.07	763.8	44	6.7	84	SW	2	0.9	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Sacramento, California	30.11	764.8	30.10	766.8	40	4.4	100	NW	3	1.3	.....	.....	Fog	.....	.....	0.00	2.3	Foggy.....	
St. Louis, Missouri	29.56	750.8	30.13	765.3	55	12.8	93	S	14	6.3	.....	.....	10s;fg	.....	.....	0.22	5.6	Cloudy.....	
St. Paul, Minnesota	28.85	732.8	29.68	753.9	38	3.3	90	SE	17	7.6	.....	.....	10s	.....	SE	0	0	Threatening	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	31	— 0.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.31	744.5	29.90	759.4	56	13.3	100	E	6	2.7	.....	.....	10n	.....	Calm	1.46	37.1	Heavy rain..	
San Diego, California	30.05	763.3	30.12	765.0	51	10.6	93	E	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy.....	
Sandusky, Ohio	29.64	752.8	30.34	770.6	37	2.8	81	E	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Sandy Hook, New Jersey	30.49	774.4	30.52	775.2	36	2.2	61	NE	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California	30.12	765.0	30.19	766.8	47	8.3	92	SE	8	3.6	.....	.....	Fog	.....	Calm	0.12	3.0	Foggy	
Santa Fé, New Mexico	23.24	590.3	29.78	756.4	18	— 7.8	53	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.35	770.9	30.44	773.2	52	11.1	93	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear.	
Shreveport, Louisiana	29.93	760.2	30.15	765.8	62	16.7	88	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy..	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.39	771.9	30.43	772.9	46	7.8	92	Calm	0	0	.....	1k	Fog	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.33	643.4	29.39	746.5	29	— 1.7	67	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.45	748.0	30.13	765.3	52	11.1	100	S	13	5.8	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Springfield, Massachusetts	30.38	771.6	30.52	775.2	29	— 1.7	56	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Stockton, Texas	26.98	685.3	29.98	761.5	56	13.3	35	W	5	2.2	.....	0	5ks	.....	Calm	0.10	2.5	Fair.....	
Thatcher's Island, Mass.	30.44	773.2	30.50	774.7	29	— 1.7	67	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.58	751.3	30.30	769.6	35	1.7	100	E	7	3.1	.....	.....	10n	.....	NE	0.12	3.0	Light rain..	
Tucson, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Umatilla, Oregon	29.56	750.8	30.07	763.8	35.5	1.9	94	SW	32	14.3	.....	0	8cs	.....	.....	0.15	3.8	Cloudy.....	
Uvalde, Texas	29.11	739.4	29.93	760.2	66	18.3	86	W	2	0.9	.....	.....	10s	.....	NW	2.42	61.5	Cloudy..	
Vicksburg, Mississippi	30.00	762.0	30.26	768.6	59	15.0	88	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	23.86	606.0	29.34	745.2	34	1.1	79	SW	28	12.5	.....	2k	0	SW	.....	0	0	Fair.....	
Visalia, California	29.78	756.4	30.18	766.6	34	1.1	100	N	1	0.4	.....	.....	Fog	.....	Calm	0.03	0.8	Dense fog....	
Washington, D. C.	30.38	771.6	30.50	774.7	46	7.8	54	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	90	NW	.....	.....	1	10cs	0	Calm	.....	0	0	Cloudy.....	
Wilmington, North Carolina	30.35	770.9	30.44	773.2	44	6.7	92	Calm	0	0	.....	5c	Fog	Calm	Calm	0	0	Fair ...	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	32	0.0	59	NE	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear.	
Wood's Holl, Massachusetts	30.45	773.4	30.49	774.4	31	— 0.6	60	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Yankton, Dakota	28.46	722.9	29.74	755.4	45	7.2	84	SW	20	8.9	.....	5c	0	W	.....	0.03	0.8	Fair	
Yuma, Arizona	29.92	760.0	30.07	763.8	46	7.2	68	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.08	764.0	30.13	765.3	74	23.2	72	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	76	24.4	83	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.6	77	25.0	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	82	NE	.....	.....	3	5k	8ks	NE	.....	0.120	3.05	⅛ cloudy.....	C. J. Hering.
Santiago de Cuba, W. I.	30.08	764.0	30.11	764.8	74	23.3	81	N	7.2	3.2	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.00	762.0	30.06	763.5	—39.0	—39.4	.....	SW	20	8.9	.....	2c	0	SW	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,775.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.34 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the SECRETARY OF THE NAVY.

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡			66	18.9	100	SE	7	3.1			0								Clear
Navy Yard, Portsmouth, N.H.	30.35‡	770.9‡			22	— 5.6	72	W	2	0.9			2								Clear
Naval Hospital, Yokohama, Japan	29.67‡	753.6‡			50.5	10.3	38	SW			4	1ck		SW		0.58	14.7				Clear.
Adams, Mare I'd., Navy Yard, Cal.	30.18‡	766.6‡			49	9.4	100	SE			2		10		SE						Cloudy
Alaska, Arica, Peru*	29.84‡	757.9‡			68	20.0	79	SE			2		2		NE						D. clouds
Colorado, New York, N. Y.	30.44‡	773.2‡			35	1.7	100	N	1	0.4			0			0	0				Clear
Constitution, Fort de France, Martinique	30.00‡	762.0‡			78	25.6	100	ENE			2		6		Calm						Cloudy
Enterprise. Constantinople, Turkey	30.30‡	769.6‡			42	5.6	74	N			3		9		N			Mod'ate			Cloudy
Franklin, Off Navy Yard, Norfolk, Va.	30.46‡	773.7‡			50	10.0	72	NE	8.4	3.8			2		NE	0	0				Clear.
Independence, Mare I'd, Navy Yard, Cal.	30.19‡	766.8‡			45	7.2	92	ESE	1.2	0.5			10		ESE	0.006	0.15				Foggy
Kearsarge, Balize, British Honduras.	30.03‡	762.7‡			77	25.0	86	NE			2		8		NE			Smooth			Fair
Lackawana, Honolulu, Sandwich Id's†	29.96‡	761.0‡			77	25.0	61	NE			0-1		8		NE						Fair
Marion, N. 19° 25′, W. 44° 37′	30.14‡	765.5‡			75	23.9	68	ENE			5		5		ENE	Rain squalls	Rain squalls	Mod'ate	E		Fair
Michigan, Erie, Pa.	30.40‡	772.1‡			32	0.0	69	ENE			2		2		E						Fair
Monocacy, Shanghai, China	30.26‡	768.6‡			30	— 1.1	68	W			1		0								Clear
New Hampshire, Port Royal, S. C.	30.43‡	772.9‡			56	13.3	100	Calm	0	0			1		Calm	0	0				Clear.
Nipsic, N. 35° 2′, W. 72° 02′	30.37‡	771.4‡			67	19.4	84	N			3		10		NE			Long	NNW		D. clouds
Onward, Callao, Peru* †.	29.89‡	759.2‡			67	19.4	89	NW			2		10					Mod'ate	W		Cloudy
Palos, Tientsin, China	30.16‡	766.1‡			23	— 5.0	?	NNW			2		0								Clear
Passaic, Washington, D. C.	30.46‡	773.7‡			47	8.3	85	NE			1		10								Cloudy
Pensacola, Callao, Peru	29.87‡	758.7‡			65	18.3	94	NNW			1		10					Smooth			Overcast
Powhatan, Navy Yard, Brooklyn, N.Y.	30.51‡	774.9‡			38	3.3	63	NE			3		2		NNE	0	0				Hazy
Quinnebaug, Villafranca, France	30.35‡	770.9‡			56	13.3	81	W			1		5		N						Fair
Ranger, Honolulu, Sandwich Id's.	29.94‡	760.5‡			73	22.8	85	NE			1		8								Cloudy
Richmond, Hong-Kong, China	30.15‡	765.8‡			59	15.0	100	NNW			1		0					Smooth			Clear.
Rio Bravo, Brownsville, Texas	30.09‡	764.3‡			72	22.2	95	ESE	3	1.3			10		ESE	0	0				Cloudy
Santee. Annapolis, Md	30.51‡	774.9‡			43	6.1	59	NE			2		10			0	0				Cloudy
Shenandoah, Montivideo, Uruguay	29.87‡	758.7‡			76	24.4	49	NNW			3		0					Smooth			Clear.
St. Louis, League Island, Pa.	30.48‡	774.2‡			33	0.6	89	Calm	0	0			8		WNW	0	0				Foggy
Tennessee, Brooklyn, N. Y.	30.54‡	775.7‡			36	2.2	71	NE	5	2.2			0			0	0				Blue sky
Trenton, Villafranca, France	30.38‡	771.6‡			61	16.1	66	W			2		3			0	0	Smooth			D. clouds
Tuscarora, San José, Guatemala	29.93‡	760.2‡			71	21.7	90	NNW			1		0					Smooth			Clear
Vandalia, Navy Yard, Brooklyn, N.Y.	30.50‡	774.7‡			36	2.2	71	NE			1		0								Clear
Wabash, Boston, Mass.	30.41‡	772.4‡			26	— 3.3	88	NW	14	6.3			0			0	0				Clear
Wachusett, Montivideo, Uruguay †	30.41‡	772.4‡			70	21.1	80	NNW			4		0					Mod'ate	WNW		Clear
Wyoming, Villafranca, France	30.35‡	770.9‡			55	12.8	62	SSE			1		1		S			Smooth	S		Fair

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, Halifax, N. S		30.21‡	767.3‡	25	— 3.9		NW			4		10		NNW				Snowing	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford																			
Philadelphia, Pa.....†		30.50‡	774.7‡	35	1.7	80	SSE			1		2		WNW				Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 50° 58′, W. 23° 44′		30.22‡	767.6‡	48	8.9		WNW			6		6		WSW	Heavy	High	SW	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 41° 35′, W. 53° 36′		29.78‡	756.4‡	52	11.1	69	NW	34	15.2			7k		W;N		Heavy	SW; NW	D. clouds	
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 45° 00′, W. 44° 06′		29.70‡	754.4‡	52.0	11.1	99	W			6		10		W	1 h'r	Long	W	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 53° 38′, E. 5° 08′		30.16‡	766.1‡				W			3		2		W		Rough	WSW	Fair	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 32° 04′, E. 133° 30′		29.86‡	758.4‡	53	11.7		NW			3–5		ks		NW		Mod'ate	NW	Hailing	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			E. LeLack.
S. S City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest.																			
S 34° 03′, E. 164° 56′		30.08‡	764 0‡				ESE			4				E		Mod ate	SE	Cloudy	
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mehaffey.
Schr Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 10° 35′, W. 32° 00′		29.86‡	758.4‡	81	27.2		ESE			4		0				Short	SE	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

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

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

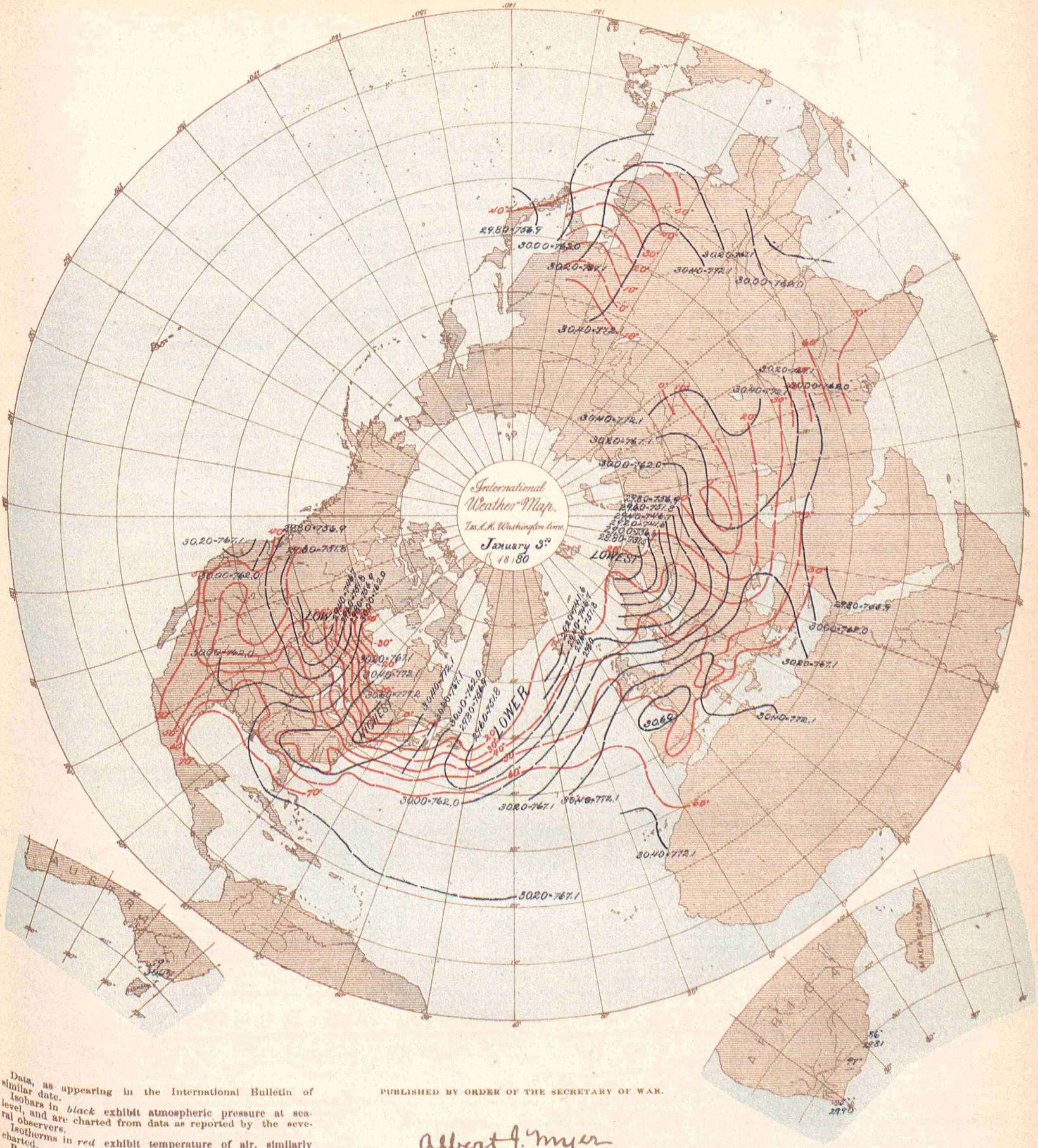
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 4, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.41	772.3	57.0	13 9	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.43	772.8	58.6	14.8	82	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.44	773.1	57.6	14.2	82	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.44	773.1	59.0	15.0	80	WNW	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.45	773.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.43	773.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.47	773.9	47.5	8.6	52	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.47	774.0	50.4	10.2	50	SW	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.44	773.1	63.3	17.4	55	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.83	757.6	30.41	772.4	34.5	1.4	73	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.51	749.5	30.31	769.9	36.3	2.4	79	NW	11.2	5.0	.....	.....	10	.....	.....	0.020	0.5	.....	Dr. Wierzbicki.
Eperies	29.26	743.1	30.17	766.3	37.4	3.0	87	NW	.....	.....	2	c	48	.....	S	0.079	2.00	.....	Julius Mikolik.
Gratz	29.13	739.9	30.42	772.7	43.9	6.6	55	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.64	727.4	30.13	765.2	35.2	1.8	85	W	.....	.....	4	.....	10	.....	.....	0.077	1.95	Snowing	Prof. A. Gottschling
Kremsmünster	29.11	739.5	30.52	775.3	38.1	3.4	80	WSW	.....	.....	1	.....	8	.....	.....	0.063	1.6	.....	Prof. C. Wagner.
Lemberg	28.99	736.3	30.01	762.3	36.1	2.3	80	NW	.....	.....	1	.....	9	.....	.....	0.067	1.7	.....	Dr. T. Stanecki.
Pola	30.29	768.5	30.37	771.5	42.8	6.0	94	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.74	755.4	30.23	767.8	34.2	1.2	92	W	.....	.....	2	.....	4	.....	.....	0.094	2.4	.....	Pet. Pancsics, S. J.
Szegedin	29.08	761.5	30.27	768.9	39.6	4.2	71	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.29	769.4	30.30	772.0	43.3	6.3	93	SW	.....	.....	1	.....	0	.....	.....	0	0	Foggy	P. Busin.
Vienna	29.08	763.8	.....	.....	43.5	6.4	.....	WNW	.....	.....	2	.....	.....	.....	.....	0.024	0.6	.....	I.R.Central Met. Ob'sy
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BELGIAN SERIES.

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

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.34	770.5	30.55	775.9	39.4	4.1	91	SW	.....	.....	1	.....	10	.....	SW	0	0	.....	Royal Observatory.
Furnes	30.52	775.2	30.54	775.8	42.4	5.8	90	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.43	772.8	30.55	776.0	39.7	4.3	64	S	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.12	765.0	30.22	767.6	42.0	5.6	.....	SW	4	1.8	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm.McNeil &G.Carrick
Armagh, (Observatory)	30.00	762.0	30.24	768.1	46.9	8.3	.....	S	10	4.5	.....	.....	9	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.35	770.9	46.2	7.9	.....	SSE	8	3.6	.....	.....	9	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	29.82	757.4	30.34	770.6	42.4	5.8	.....	SW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	78	25.6	.....	NE	.....	.....	2	.....	4	.....	.....	0.01	0.3	.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.37	771.4	30.47	773.9	43.0	6.1	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	30.43	772.9	40.6	4.4	.....	SW	.....	.....	0–1	.....	2	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham (School M. E.)	30.37	771.4	30.50	774.7	45.1	7.3	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	J. Carmell, Sapper, R.E.
Donaghadee	30.20	767.1	30.24	768.1	47	8.3	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	30.44	773.2	30.48	774.2	42	5.6	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast....	J. Costello.
Falmouth (Observatory)	30.18	766.6	30.42	772.7	49.3	9.6	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier, Natal	27.46	697.5	29.62	752.3	89.0	31.7	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.44	747.8	49	9.4	.....	SE	.....	.....	3	.....	10	.....	.....	0	0	Overcast....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt.Wm. Allen, A. H.
Glasgow, (Observatory)	30.05	763.3	30.25	768.3	44.3	6.8	.....	SW	.....	.....	3	.....	10k	.....	.....	.....	.....	Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.44	773.2	30.44	773.2	40	4.4	.....	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.30	769.6	30.48	774.2	42.1	5.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	The Staff, for G.B.Airy.
Guernsey	30.23	767.8	30.46	773.7	43.5	6.4	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	Dr. S.E Hoskins, F.R.S.
Helston	30.51	774.9	30.63	778.0	50	10.0	.....	S	.....	.....	2	.....	10k	.....	.....	0	0	Gloomy	M. P. Moyle.
Holyhead	30.26	768.6	30.32	770.1	47	8.3	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	30.22	767.6	30.52	775.2	40.2	4.6	.....	S	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.45	773.4	30.48	774.2	42.0	5.6	.....	SSW	10	4.5	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Met'g'l Office.
Leicester (Museum)	30.17	766.3	30.43	772.9	43.0	6.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.17	766.3	30.25	768.3	60	15.6	.....	NW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.07	763.8	30.16	766.1	44	6.7	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.28	769.1	74.0	23.3	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.22	767.6	30.42	772.7	45.2	7.3	.....	SSW	.....	.....	1	.....	9k	.....	WSW	0.002	0.05	D. clouds....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.87	758.7	30.41	772.4	43.6	6.4	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.35	770.9	30.43	772.9	46.8	8.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling....	John Merrifield.
*Roche's Point	30.18	766.6	30.28	769.1	49	9.4	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	30.20	767.1	30.37	771.4	47	8.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.13	765.3	45.3	7.4	.....	W	15	6.7	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.91	759.7	29.97	761.2	41.0	5.0	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Hail-showers....	Serg't W. H. Lyne.
Sheffield	30.12	765.0	30.40	772.1	45.9	7.7	.....	SW	.....	.....	1	.....	4	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	30.24	768.1	30.28	769.1	45.3	7.4	93	W	.....	.....	2	.....	10	.....	.....	0.062	1.57	Overcast....	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.35	770.9	44.9	7.2	.....	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	42.6	5.9	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.36	771.1	30.42	772.7	51	10.6	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia Observatory)	30.16	766.1	30.18	766.6	48.3	9.1	.....	WSW	16	7.2	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.99	761.7	30.03	762.7	74.1	23.4	52	SSE	11.7	5.2	.....	6	6	.....	.....	0	0	Foggy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2	.....	.....	97	36.1	.....	NW	.....	.....	.....	2k	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.68	677.7	.....	.....	81	27.2	.....	NW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.39	772	61.7	16.5	.....	NE	.....	.....	Slight	.....	Slight	.....	.....	0	0	Fine.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.26	768.6	46.0	7.8	.....	W	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast....	C. Meldrum.
Mauritius (Observatory)	29.71	754.6	29.90	759.5	81.1	27.3	57	SE	21.0	9.4	.....	0	2	.....	E	0.22	5.6	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	63.0	17.2	86	S	3	1.3	.....	.....	0	.....	.....	0	0	Very fine....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.11	764.8	49	9.4	.....	SW	.....	.....	4	3	0	.....	.....	0	0	.....	
North Unst, Shetland Is	.....	.....	29.99	761.7	.....	.....	.....	W	.....	.....	6	2	4	SW	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.34‡	745.2‡	64.5	18.1	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 46° 30′, W. 24° 20′	.....	.....	29.92	760.0	56	13.3	.....	S	.....	.....	8	.....	10	.....	.....	7	(Confused	Showery.....	Capt. A. J. Brown
City of Cashmere, S. 44° 05′, W. 123° 50′	.....	.....	29.88‡	758.9‡	50.8	10.4	.....	SSE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	Capt. W. M. Grieve.
Barque Commewyne, N. 2° 35′, W. 59° 10′	.....	.....	30.11‡	764.8‡	76.4	24.6	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Jas. Buchan.
S. S. Ethiopia, N. 46° 00′, W. 49° 50′	.....	.....	30.27	768.8	28	— 2.2	.....	NNW	.....	.....	6	.....	7	.....	.....	5	NNW	Snowing.....	Capt. Campbell.
Barque Fedalma, N. 34° 0′, W. 48° 10′	.....	.....	30.15	765.8	58	14.4	.....	NW	.....	.....	6–9	.....	9	.....	.....	7	NW	Showery.....	Capt. H. L. Fox.
S. S. German, S. 15° 08′, E. 0° 47′	.....	.....	29.92‡	760.0‡	72	22.2	.....	SE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
S. S. Strathleven, N. 9° 55′, E. 55° 30′	.....	.....	29.80‡	756.9‡	74.5	23.6	.....	NNE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. C. W. Pearson.
S. S. Sunbeam, N. 48° 35′, W. 19° 05′	.....	.....	30.13	765.3	54	12.2	.....	SSW	.....	.....	5	.....	6	.....	.....	4	SSW	D. clouds.....	Capt. C M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	64.4	18.0	80	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.07	763.6	30.11	764.8	39.6	4.2	93	NW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Faröe	30.19	766.8	30.21	767.3	39.6	4.2	97	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	28.87	733.2	28.91	734.3	37.8	3.2	97	S	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	29.87	758.7	29.91	759.6	45.0	7.2	82	W	.....	.....	4	.....	9	.....	.....	.....	.....	Raining	
Vestervig	29.99	761.7	30.10	764.5	40.8	4.9	97	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.99	761.7	30.54	775.7	36.3	2.4	93	SW	.....	.....	1	.....	8k	.....	S	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.44	773.2	30.56	776.2	41.4	5.2	81	W	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.28	769.1	30.55	776.0	38.5	3.6	97	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Klein, Commandant.
Avignon, Normal School	30.28	769.2	30.36	771.2	46.8	8.2	55	N	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Saillard, Director.
Beauvais, Normal School	30.28	769.1	30.56	776.3	38.3	3.6	93	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.59	751.6	30.51	775.0	37.8	3.2	86	NE	.....	.....	1	.....	1	.....	NE	0	0	Clear	A. Carré, Director.
Bordeaux	30.22	767.6	30.42	772.6	35.2	1.8	96	NNE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.65	753.1	30.57	776.5	30.2	— 1	100	W	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.92	759.9	30.50	774.8	34.2	1.2	96	NW	.....	.....	1	.....	10n	.....	W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.23	767.7	30.47	773.9	46.8	8.2	91	SE	.....	.....	1	.....	9	.....	SE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.39	771.9	30.47	773.9	42.4	5.8	85	S	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'y	M. Bletrin, Director.
Carcassonne, N. School	29.94	760.4	30.37	771.5	40.6	4.8	90	W	.....	.....	3	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	30.26	768.5	30.59	776.1	39.9	4.4	93	SW	.....	.....	2	.....	10	SW	SW	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.91	759.6	30.51	774.9	34.7	1.5	82	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.07	738.3	30.52	775.2	30.2	— 1.0	98	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.67	753.6	30.61	777.4	39.6	4.2	87	W	.....	.....	1	.....	5kn	W	W	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.20	741.8	30.35	770.8	56.7	13.7	40	N	.....	.....	1	.....	0	.....	.....	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.71	754.6	30.52	775.2	38.8	3.8	72	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.26	768.5	30.48	774.2	43.2	6.2	70	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Moullot, Director.
Le Mans, Normal School	30.23	767.8	30.56	776.2	35.1	1.7	96	NE	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.49	749.1	30.45	773.5	32.0	0	78	SE	.....	.....	1	.....	0	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.39	772.0	30.50	774.8	42.8	6.0	94	ESE	.....	.....	1	.....	10	.....	.....	0.039	1.0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.86	758.4	30.52	775.2	33.3	0.7	88	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.03	762.7	30.30	769.6	53.4	11.9	70	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.30	744.1	30.53	775.4	31.6	— 0.2	84	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	25.15	638.7	30.44	773.1	44.6	7.0	31	E	7.4	3.3	.....	.....	3	.....	E	0	0	.....	M. Cave
Nice	30.32	770.2	30.35	771.0	51.1	10.6	80	SW	.....	.....	2	.....	5	SE	SW	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.10	764.5	30.31	769.9	49.8	9.9	76	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.27	768.8	.....	.....	34.9	1.6	100	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Marié Davy, Director.
Perpignan	30.24	768.2	30.36	771.1	52.7	11.5	48	W	1.8	0.8	.....	.....	1	NW	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.75	577.8	.....	.....	42.8	6.0	.....	.....	.....	.....	.....	.....	.....	.....	SW	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.84	758.1	30.44	773.2	44.2	6.8	65	N	.....	.....	1	.....	1	NE	NE	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.48	645.9	.....	.....	39.0	3.9	46	E	.....	.....	3	.....	0	.....	.....	0.098	2.5	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.46	773.6	30.49	774.4	36.0	2.2	93	E	.....	.....	1	.....	.....	E	E	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	30.45	773.4	30.54	775.6	37.0	2.8	97	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.40	773.8	30.49	774.5	37.6	3.1	88	SE	.....	.....	2	.....	8	SE	SE	0	0	Very cloudy	Lt. Herconet, Director
Saint Maur (near Paris)	30.39	771.9	30.56	776.1	36.3	2.4	100	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.32	744.6	30.46	773.7	35.6	2	100	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.74	755.5	30.48	774.1	37.4	3.0	100	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Julien Mercadier.
Tours	30.29	769.4	30.49	774.4	38.5	3.6	87	ENE	.....	.....	1	.....	1	.....	E	0	0	Almost clear	Cousin-Marquet.
Versailles, Observatory	30.01	763.0	30.54	775.6	34.2	1.2	100	.....	.....	.....	1	.....	10	.....	.....	0.010	0.25	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.84	758.0	30.60	777.3	33.8	31	81	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.2	29.96	760.9	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.86	225.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.33	770.3	30.35	770.9	28.4	— 2.0	70	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 368.41 m., or 1,032.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.62	752.4	30.50	774.7	39.7	4.3	79	W			4		4k	W		0	0		Prof. Dr. Hoh.
Berlin	30.18	766.6	30.36	771.2	39.2	4.0	88	W			5		10			0	0		Prof. Dr. Arndt.
Breslau	29.83	757.6	30.37	771.3	38.3	3.5	75	WNW			5		8	NW		0.030	0.76		Royal University Obs'y.
Carlsruhe	30.09	764.2	30.54	775.7	41.7	5.4	68	NE			1		1	NE		0	0		Albert Senz.
Cassel	29.88	759.0	30.50	774.7	41.4	5.2	81	SW			2		7	W		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.24	768.1	30.63	778.0	40.6	4.8	68	SW			1		8			0	0		Physical Society.
Friedrichshafen	29.06	738.0	30.56	776.2	39.2	4.0	84	SW			2		5	NE		0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.29	769.4	30.36	771.2	36.9	2.7	93	W			3		10			Inap.	Inap.	Foggy	Dr. Reinhold Kleeman.
Kiel	30.26	768.7	30.28	769.1	40.3	4.6	90	W			3		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.1	37.0	2.8	83	NW			4		9			0.012	0.3		Prof. E. Luther.
Köslin			30.17	766.4	36.3	2.4		W			4		4			0.150	3.8		H. Müller.
Leipsic Observatory	30.03	762.8	30.47	774.0	39.9	4.4	82	W			3		10	W		0.004	0.1	Raining	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.20	767.1	30.43	773.0	41.9	5.5	82	WSW			4		6ks	NW		0	0		Dr. Assmann.
Memel	29.89	759.2	29.94	760.4	36.1	2.3	94	NW			2–3		8s						Reinbrecht & Issermann.
Munich (München)	28.65	727.8	30.55	776.0	36.9	2.7	66	Calm			0		1			0	0		Dr. C. Lang.
Neufahrwasser	30.08	764.1	30.10	764.5	36.1	2.3	80	W			3		8			0	0		A. Lothes.
Neustadt (Palatinate)	30.01	762.2	30.54	775.8	43.0	6.1	60	E			1		2			0	0		Reallehrer Dicknether
Posen	29.96	760.9	30.26	768.6	37.2	2.9	82	NW			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.1	30.58	776.8	39.4	4.1	87	Calm			0		1			0	0		Imp. University Observatory.
Stuttgart	29.56	750.8	30.54	775.8	40.5	4.7	60	SE			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.05	763.2	30.24	768.0	35.8	2.1	80	W			4		9	NW		0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.99	736.4	30.60	777.2	37.9	3.3	76	WNW	2.0	0.9		2ck			W	0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.24	768.1	30.26	768.7	36.2	1.8	100	WNW			5		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,465.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.70	754.4	30.10	764.5	53.8	12.1		NW			1.5		5					⅛ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.92	759.9	29.97	761.2	76.5	24.7	33	NNW	9	4.0			0			0	0	Blue sky	
Deesa	29.46	748.2	29.94	760.5	71.9	22.2	36	NNW	8.7	3.9			0			0	0	Blue sky	
Bombay	29.80	756.8	29.84	757.8	74.2	23.4	62	NW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	27.95	709.9	29.80	756.9	78.8	26.0	8	N	8	3.6			0			0	0	Blue sky	
Belgaum	27.27	692.6	29.82	757.4	72.3	22.4	33	W	5	2.2			1	SE		0	0	D. clouds	
Lahore	29.19	741.5	29.97	761.3	59.1	15.1	54	Calm	0.8	0.4			0			0	0	Blue sky	
Roorkee	28 99	736.3	29.93	760.1	61.0	16.1	55	Calm	1.4	0.6			0			0	0	Blue sky	
Agra	29.38	746.3	29.97	761.2	63.8	17.7	53	W	3.4	1.5			0			0	0		
Nagpur	28.79	731.4	29.85	758.1	74.8	23.8	44	ENE	2.2	1.0			0			0	0	Blue sky	
Jubbulpore	28.50	724.0	29.90	759.5	68.2	20.1	46	NE	2.7	1.2			0			0	0	Blue sky	
Lucknow	29.52	749.7	29.91	759.7	63.3	17.4	55	NNW	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.63	752.6	29.96	761.0	59.6	15.3	71	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.73	755.0	29.92	759.8	66.8	19.3	61	W	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.85	707.4	29.93	760.3	61.8	16.6	61	NW	4.0	1.8			0			0	0	Blue sky	
Cuttack	29.78	756.3	29.86	758.5	73.8	23.2	82	NE	4.0	1.8			9			0.01	0.3	D. clouds	
Calcutta (Alipore)	29.88	758.9	29.90	759.4	69.9	21.1	80	N	0.5	0.2			10			0	0	Overcast	
Goalpara	29.47	748.6	29.87	758 7	70.3	21.3	61	E	5.6	2.5			1		W	0	0	D. clouds	
Chittagong	29.78	756.5	29.88	758.8	73.0	22.8	97	Calm	1.7	0.8			4			0	0	Misty	
Sibsagar	29.54	750.3	29.89	759.2	62.9	17.2	78	ENE	1.5	0.7			5			0	0	D. clouds	

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

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.98	761.5	30.41	772.5	46.6	8 1	43	E	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.82	757.3	30.37	771.3	34.5	1.4	76	ESE	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.30	769.6	30.42	772.6	33.8	1.0	83	NNE	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.40	746.8	30.35	770.8	35.1	1.7	80	NE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.18	766.6	30.38	771.7	50.4	10.2	66	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.38	720.9	30.38	771.6	51.4	10.8	27	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.34	770.5	30.39	771.8	40.6	4.8	74	W	4.3	1.9	.....	.....	8	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.13	765.3	30.41	772.3	41.0	5.0	92	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.29	769.4	30.38	771 7	49.6	9.8	73	NE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.15	765.9	30.34	770.6	46.8	8.2	68	N	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.99	761.7	30.25	768 4	52.7	11.5	88	NNW	18.6	8.3	.....	.....	6	.....	N	0	0	.....	Prof. C. De Giorg.
Cosenza	29.37	745.9	30.29	769.3	51.6	10.9	70	SE	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.16	766.0	30.36	771.1	57.0	13.9	60	NW	.....	.....	2	.....	5	.....	W	0	0	.....	Prof. A. Pacinotti.
Palermo	30.08	763.9	30.34	770.5	55.6	13.1	74	NNW	7.4	3.3	.....	.....	10	.....	NNW	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.19	766.9	30.24	768.1	57.0	13.9	60	NNE	6.3	2.8	.....	.....	2	.....	NNW	0	0	.....	Prof. V.G. Gulfano.
SUB-SERIES.																			
Naples, S. R.	29.78	756.4	30.32	770.0	53.6	12.0	65	NE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	29.97	761.2	29.98	761.6	35.3	1.8	70	WNW	2.3	1.0	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	38.7	3.7	73	NW	7.0	3.1	.....	.....	9s	.....	.....	0.190	4.83	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.64	752.8	29.71	754.6	32.3	0.2	79	NNW	3.0	1.3	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.88	758.9	29.94	760.5	38.2	3.4	84	W	1.9	0.8	.....	.....	9s;n	.....	.....	0.010	0.25	Raining	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.6	30.33	770.4	40.1	4.5	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.49	622.0	30.32	770.0	49.5	9.7	75	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.77	756.2	30.04	762.9	59.5	15.3	75	Calm	.....	.....	0	6c	0	.....	.....	0	0	Fair	F. Quijano, C. E.
Mexico, Central Observatory	23.10	586.7	30.25	768.4	45.3	7.4	78	Calm	0	0	.....	0	0	.....	.....	0	0	Very fine	The Staff.
Morelia	24.06	611.0	.....	.....	58.3	14.6	67	SE	.....	.....	3	3k	0	SW	.....	0	0	Clear	M. Pena, M. D.
Pabellon (Aguascalientes)	23.89	606.8	29.97	761.2	43.3	6.3	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.5	30.43	772.9	43.2	6.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.27	616.5	30.43	773.0	45.3	7.4	53	E	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.01	762.2	30.02	762.5	71.8	22.1	93	W	.....	.....	1	.....	10	.....	N	0	0	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	30.03	762.7	30.06	763.4	73.4	23.0	87	Calm	0	0	.....	2c	5k	.....	.....	0.024	0.6	Cloudy	Prof. J. Rossell
Zacatecas	22.54	572.5	30.26	768.6	48.0	9.2	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.0 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.54	775.7	30.54	775.7	39.4	4.1	.....	SW	.....	.....	2	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	30.35	771.0	30.41	772.4	37.8	3.2	.....	WSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.43	773.0	30.43	773.0	39.6	4.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.52	775.2	30.52	775.2	37.2	2.9	96	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.46	773.8	30.51	775.0	36.5	2.5	96	SW	.....	.....	2	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.92	760.0	29.98	761.4	43.2	6.2	82	W	17.2	7.7			8			0.039	1.0	Raining	
Brönö	29.49	749.1	29.53	750.1	34.9	1.6	75	SSW	9	4			9			0.051	1.3		
Christiana	29.71	754.5	29.85	758.3	32.9	0.5	75	NNE	2	1			0			0	0		
Tromsö	29.30	744.3	29.35	745.4	28.2	— 2.1	77	SW	7	3			10			0.390	9.9		

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.43	747.6	30.48	774.2	44.6	7.0	77	Calm	0	0			4			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.38	771.7	30.47	773.9	66.2	19.0	55	ESE	2.5	1.1			3			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	30.14	765.6	30.52	775.1	49.1	9.5	100	NE	6.3	2.8			10			0.102	2.6	Light rain	The Staff.
Ponta Delgada (Azores)	30.28	769.2	30.35	771.0	64.8	18.2	72	SW	16.8	7.5			4			0	0		

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. [illegible] Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.			D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando, Gulf of Guinea.			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	2	N	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.39	746.4	29.41	746.9	32.0	0.0	85	SSE	13	6			10						Capt. Sseliwerstow.
Astrakhan	30.17	766.2	30.08	764.1	28.9	— 1.7	100	E	2	1		10cp							Capt. Wisganow.
Barnaul	29.70	754.4	30.25	768.4	7.3	—13.7	99	SW	0	0			10			Blank	Blank		Meteorological Obs.
Dorpat	29.46	748.3	29.71	754.7	32.4	— 0.2	92	WNW	9	4			10n						Prof. Dr. Weihrauch.
Ekaterinburg	29.10	739.1	30.14	765.6	13.8	—10.1	87	SSW	9	4			10					Light snow.	Meteorological Obs.
Irkutsk																			
Kasan	29.75	755.6	30.01	763.1	13.8	—10.1	95	S	7	3			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.15	740.5	29.82	767.3	33.6	0.9	90	Calm	0	0			9cks						Physical Cabinet.
Krotkowo*	29.62	752.3	30.14	765.6	5.2	—14.9	86	SSW	4	2			10						Cand. Fatjanow.
Lugan	29.78	756.3	29.99	761.8	25.5	— 3.6	82	SSE	13	6			10						Meteorological Obs
Moscow	29.21	741.8	29.78	756.5	22.6	— 5.2	80	S	4	2			10s						Meteorological Obs.
Nertchinsk	27.77	705.4	30.41	772.4	—15.7	—26.5	58	Calm	"	"			0						Meteorological Obs.
Nikolaiev	29.87	758.?	29.95	760.6	32.4	0.2	98	Calm	0	0			10n						Kurdakof.
Nukuss	29.77	756.2	30.02	762.4	31.1	— 0.5	86	NNE	11	5			9ks						
Oranberg																			
Pekin (China)	30.19	766.7	30.33	770.3	19.6	— 6.9	46	Calm	0	0			5k						Physical Observatory.
St. Petersburg	29.51	749.6	29.53	750.0	32.9	0.5	96	WNW	11	5			10n						Central Physical Obs.
Tashkend	28.42	721.9	30.08	764.1	27.7	— 2.4	92						10						Teich, A. M.
Tiflis	28.54	724.9	30.01	762.3	36.1	2.3	54	NW	13	6			6s						Physical Observatory.
Vladivostock																			
Warsaw	29.69	754.2	30.13	765.4	34.7	1.5	85	WNW	18	8			10ks						Astronomical Obs.
Wilna	29.47	748.5	29.90	759.5	34.3	1.3	91	S	9	4			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.01	762.3	30.34	770.6	— 9.6	—23.1	82	ESE	2	1			0						Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.30	769.6	30.37	771.4	50.7	10.4	43	W	1.4	0.64		1c				0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.41	772.5	30.47	774.0	50.0	10.0	63	SE	2.1	0.92		3	2	SW		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.45	697.2			27.0	— 2.8	89	W	2.8	1.04		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.17	715.4	30.51	774.9	40.1	4.5	66	SE	3.0	1.33		0	0			0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.30	769.6	30.45	773.5	54.5	12.5	62	SW	1.4	0.61		0	0			0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.60	749.4	30.43	772.9	48.7	9.3	83	NE	0	0			0			0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.3	30.20	767.0	73.9	23.3	83	E	5.6	2.5		1c	3k;ks	WSW	E	Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.81	757.2	29.86	758.5	80.2	26.8	81	NNE	0	0			2s		E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.36	771.2	30.46	773.8	54.9	12.7	66	NNE	4.0	1.8		0	1		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.03	762.3	30.12	765.1	82.4	28.0	61	E	17.2	7.69		3c	2k	E	E	0.148	3.75	Clear.	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.49	749.0	29.53	750.0	13.6	—10.2	.....	W	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.63	752.6	29.68	753.9	19 4	— 7.0	100	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	
Hernosand	29.08	753.8	29.73	755.1	28.8	— 1.8	84	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.72	754.8	29.89	759.3	32.0	0.0	74	WSW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	29.79	756.7	29.85	758.2	36.0	2.2	82	WNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.72	754.8	29.80	757.0	32.9	0.5	75	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.05	737.9	30.54	775.8	32.7	0.4	93	NNE	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.85	732.8	30.56	776.1	34.9	1.6	85	NW	.....	.....	1	.....	7	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.2 mm.; Thermometer, —1.0 Cent.; Relative Humidity, +13 per cent

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.02	762.4	39.7	4.3	89	WSW	9	4.0	.....	.....	10	.....	SW	0.402	10.2	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.18	766.6	55.6	12.8	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.94	760.4	63.1	11.7	51	NNE	.....	.....	2	.....	1k	.....	NE	0.07	1.8	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	30.23	767.8	30.30	769.6	6.9	—13.9	89	Calm	0	0	.....	.....	10n	.....	.....	0.09	2.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.37	771.4	30.42	772.7	12.6	—10.8	88	S	15	6.7	.....	.....	10n	.....	.....	.....	.....	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.70	754.4	29.89	759.2	43.1	6.2	94	W	.....	.....	4	.....	10n	.....	.....	0.61	15.5	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.94	760.5	30.12	765.0	7.0	—13.9	.....	E	3	1.3	.....	.....	10n	.....	.....	.....	.....	Light snow.	H. A. Johnson.
Father Point, Quebec	29.94	760.5	29.96	761.0	14.0	—10.0	100	SW	30.0	13.4	.....	.....	10n	.....	.....	0.01	0.3	Light snow.	J. McWilliams.
Fredericton, N. B	30.18	766.6	30.25	768.3	9.4	—12.6	96	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. Harrison.
Fort Garry, Manitoba	29.44	747.8	30.40	772.1	—13.0	—25.0	100	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.92	734.6	30.03	762.7	47	8.3	.....	Calm	.....	.....	0	.....	10n	.....	.....	1.40	35.6	Foggy	James Grant.
Halifax, N. S	30.36	771.1	30.50	774.7	21.0	— 6.1	96	SW	4	1.8	.....	.....	10n	.....	.....	0.01	0.3	Light snow.	A. Allison.
Hamilton, Ontario	29.69	754.1	30.06	763.5	49.7	9.8	96	W	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.65	753.1	29.99	761.7	38.1	3.4	92	S	16	7.2	.....	.....	10n	.....	.....	0.38	9.7	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	30.42	772.7	30.46	773.7	11.7	—11.3	88	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.73	755.1	29.94	760.5	30.0	— 1.1	96	Calm	0	0	.....	.....	10n	.....	.....	0.59	15.0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.53	750.0	29.56	750.8	30.0	— 1.1	87	W	.....	.....	5	.....	10	.....	.....	0.30	7.6	Cloudy	J. R. Nesson.
Norwood	29.25	742.9	29.97	761.2	43.6	6.4	100	SW	11	4.9	.....	.....	10s	.....	.....	.....	.....	Raining	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.29	744.0	30.00	762.0	39.5	4.2	95	W	7	3.1	.....	.....	10n	.....	NW	0.40	10.2	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.97	761.2	45.7	7.6	92	NW	.....	.....	2	.....	10n	.....	.....	0.37	9.4	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.37	746.0	30.06	763.5	49.1	9.5	100	SW	19	8.5	.....	.....	10n	.....	.....	0.09	2.3	Heavy rain	H. Morgan.
Port Stanley, Ontario	29.43	747.5	30.10	764.5	40.1	4.4	96	W	12	5.4	.....	.....	Fog	.....	.....	0.18	4.6	Light rain	M. Payne.
Quebec, Quebec	29.66	753.4	30.00	762.0	18.0	— 7.8	100	E	.....	.....	1	.....	Fog	.....	.....	0.50	12.7	Rain & fog	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.13	765.3	30.30	769.6	27	— 2.8	100	SW	27	12.1	.....	.....	10n	.....	.....	0.11	2.8	Snowing	G. Murdock, C. E.
Saugeen, Ontario	29.30	744.2	30.03	762.7	39	3.9	100	SW	10	4.5	.....	.....	10ks	.....	.....	0.65	16.5	Overcast	K. Stewart.
Stratford, Ontario	28.74	730.0	30.04	763.0	44.0	6.7	97	SW	10.0	4.5	.....	.....	Fog	.....	.....	1.63	41.4	Foggy	C. J. MacGregor, M. A.
Sydney, C. B	30.46	773.7	30.51	774.9	4.8	—15.1	95	Calm	0	0	.....	10cs	0	NW	.....	0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.65	753.1	30.04	763.0	42.3	5.7	98	SW	7	3.1	.....	.....	10n	.....	.....	0.59	15.0	Light rain	Magnetic Observatory
Windsor, N. S	30.29	769.4	30.40	772.1	23.6	— 5.0	100	S	5	2.2	.....	5k	5n	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	28.98	736.1	30.05	763.3	47.5	8.6	96	SW	17	7.6	.....	.....	10s	.....	.....	0.57	14.5	Raining	Professor Wolverton.
Yarmouth, N. S	30.30	769.6	30.37	771.4	32.5	0.3	90	S	10	4.5	.....	.....	10s	.....	.....	0.10	2.5	Light snow.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.24	768.1	30.52	775.2	10	—12.2	.....	SW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.36	771.1	24.8	— 4.0	.....	N	.....	.....	2	.....	n	.....	.....	0	0	Cloudy	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.00	762.0	30.24	768.1	37	2.8	71	S	14	6.3	.....	10cs	0	SW	.....	0.02	0.5	Cloudy.....	
Alpena, Michigan	29.41	747.0	30.07	763.8	41	5.0	91	W	6	2.7	.....	.....	8s	.....	Calm	0.45	11.4	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.25	742.9	30.42	772.7	55	12.8	87	SE	10	4.5	.....	0	5s	.....	SE	0	0	Fair.....	
Atlantic City, New Jersey	30.40	772.1	30.42	772.7	39	3.9	100	E	3	1.3	.....	5c;k	Fog	NW;W	Calm	0	0	Fair.....	
Augusta, Georgia	30.28	769.1	30.49	774.4	51	10.6	86	Calm	0	0	.....	0	5s;hz'	.....	S;Calm	0	0	Fair.....	
Baltimore, Maryland	30.38	771.6	30.43	772.9	39	3.9	82	E	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Barnegat, New Jersey	30.38	771.6	30.41	772.4	40	4.4	100	Calm	0	0	.....	0	8s	.....	W	0	0	Fair.....	
Bismarck, Dakota	28.38	720.8	30.24	768.1	10	—12.2	79	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Boerne, Texas	28.66	728.0	29.98	761.5	56	13.3	87	SE	2	0.9	.....	.....	10s	.....	SE	0.33	8.4	Cloudy.....	
Boise City, Idaho	27.20	690.9	30.16	766.1	34	1.1	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Boston, Massachusetts	30.14	765.5	30.30	769.6	40	4.4	91	SW	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brackettville, Texas	28.96	735.6	30.02	762.5	55	12.8	93	E	1	0.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Breckenridge, Minnesota	29.23	742.4	30.34	770.6	7	—13.9	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Brownsville, Texas	30.09	764.3	30.13	765.3	74	23.3	90	S	8	3.6	.....	8cs	0	Calm	.....	0.05	1.3	Fair.....	
Buffalo, New York	29.32	744.7	30.02	762.5	53	11.7	73	SW	11	4.9	.....	.....	10n	.....	SW	0.02	0.5	Light rain...	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.76	755.9	30.06	763.5	37	2.8	81	S	27	12.1	.....	.....	10n	.....	SW	0.06	1.5	Light rain...	
Cairo, Illinois	29.85	758.2	30.24	768.1	63	17.2	83	S	12	5.4	.....	.....	10s	.....	S	0.	0	Threatening	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.45	773.4	30.46	773.7	54	12.2	93	Calm	0	0	.....	Haze	1ks	.....	Calm	0	0	Hazy.....	
Cape Henry, Virginia	30.40	772 1	30.42	772.7	46	7.8	92	S	1	0.4	.....	0	2ks	.....	Calm	0	0	Clear.....	
Cape Lookout, N. Carolina	30.44	773.2	30.46	773.7	52	11.1	93	NE	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear.....	
Cape May, New Jersey	30.39	771.9	30.42	772.7	43	6.1	84	SW	10	4.5	.....	2ck	0	W	.....	0	0	Clear.....	
Castroville, Texas	29.32	744.7	30.03	762.7	58	14.4	.....	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy.....	
Cedar Keys, Florida	30.35	770.9	30.37	771.4	64	17.8	89	NE	9	4.0	.....	1c;cs	0	Calm	.....	0	0	Clear.....	
Charleston, South Carolina	30.40	772.1	30.46	773.7	55	12.8	93	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Charlotte, North Carolina	29.60	751.8	30.44	773.2	50	10.0	93	S	2	0.9	.....	2cs	Fog	NW	Calm	0	0	Foggy.....	
Chattanooga, Tennessee	29.58	751.3	30.58	771.6	58	14.4	82	SW	6	2.7	.....	1k	0	SW	.....	0	0	Clear.....	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	17	— 8.3	51	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.40	746.7	30.09	764.3	51	10.6	86	NW	1	0.4	.....	.....	10s	.....	Calm	0.95	24.1	Cloudy.....	
Cincinnati, Ohio	29.58	751.3	30.22	767.6	60	15.6	71	SW	9	4.0	.....	5ck;k	5ks	W	W	0.44	11.2	Cloudy.....	
Cleveland, Ohio	29.39	746.5	30.10	764.5	59	15.0	70	S	17	7.6	.....	.....	10n	.....	SW	0.14	3.6	Light rain...	
Coleman City, Texas	28.27	718.0	29.98	761.5	43	6.1	67	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Columbus, Ohio	29.33	745.0	30.17	766.3	56	13.3	87	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Concho, Texas	28.18	715.8	29.88	758.9	49	9.4	71	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
Corsicana, Texas	29.70	754.4	30.17	766.3	58	14.4	100	SE	2	0.9	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	
Davenport, Iowa	29.50	749.3	30.15	765.8	45	7.2	92	NW	9	4.0	.....	.....	Fog	.....	Calm	1.57	39.9	Foggy.....	
Dayton, Washington T'y	.....	.....	.....	.....	43	6.1	50	SW	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy.....	
Deadwood, Dakota	25.42	645.7	.....	.....	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.31	744.5	30.10	764.5	57	13.9	94	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Denver, Colorado	24.88	631.9	30.10	764.5	23	— 5.0	60	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.30	744.2	30.22	767.6	37	2.8	71	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear.....	
Detroit, Michigan	29.38	746.2	30.04	763.0	50	10.0	93	SW	7	3.1	.....	.....	10n	.....	Calm	0.39	9.9	Light rain...	
Dodge City, Kansas	27.50	698.5	29.88	758.9	32	0.0	79	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.48	748.8	30.20	767.1	36	2.2	90	W	2	0.9	.....	.....	Fog	.....	Calm	0.22	5.6	Foggy.....	
Duluth, Minnesota	29.45	748.0	30.17	766.3	27	— 2.8	76	NW	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Eagle Pass, Texas	29.39	746.5	30.13	765.3	53	11.7	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	30.18	766.6	30.25	768.3	32	0.0	94	S	19	8.5	.....	.....	10n	.....	S	0.11	2.8	Light snow.	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	95	NW	.....	.....	1	.....	10n	.....	Calm	0.04	1.0	Rainy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.38	746.2	30.08	764.0	59	15.0	70	SW	14	6.3	.....	.....	10s	.....	SW	0.03	0.8	Threatening	
Escanaba, Michigan	29.44	747.8	30.12	765.0	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0.62	15.7	Clear.....	
Florence, Arizona	28.58	725.9	30.18	766.6	36	2.2	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.12	714.2	30.21	767.3	— 7	—21.7	80	E	1	0.4	.....	5cs	0	NW	.....	0	0	Fair.....	
Fort Custer, Montana	26.81	681.0	.....	.....	12	—11.1	79	SW	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Fort Davis, Texas	25.23	640.8	30.19	766.8	33	0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.60	751.8	30.14	765.5	59	15.0	88	SW	2	0.9	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy.....	
Fort Grant, Arizona	25.29	642.4	30.09	764.3	40	4.4	57	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	28.82	732.0	30.11	764.8	47	8.3	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Keogh, Montana	27.35	694.7	.....	.....	16	— 8.9	67	Calm	0	0	.....	0	0	.....	.....	0.14	3.6	Clear.....	
Fort McKavett, Texas	27.85	707.4	29.82	757.4	45	7.2	92	S	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.87	733 3	29.99	761.7	50	10.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.10	2.5	Foggy.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	32	0.0	79	W	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.26	717.8	29.81	757.2	56	13.3	81	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.13	765.3	30.18	766.6	64	17.8	89	S	2	0.9	.....	.....	10s	.....	S	0.28	7.1	Cloudy.....	
Graham, Texas	29.03	737.3	30.10	764.5	48	8.9	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog....	
Grand Haven, Michigan	29.44	747.8	30.09	764.3	46	7.8	84	N	6	2.7	.....	5cs	0	Calm	.....	0.93	23.6	Fair.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.18	741.1	30.13	765.3	51	10.6	100	S	7	3.1	.....	.....	Fog	.....	.....	0.06	1.5	Foggy.....	
Indianapolis, Indiana	29.33	745.0	30.10	764.5	58	14.4	88	S	12	5.4	.....	.....	10n	.....	S	0.63	16.0	Light rain...	
Indianola, Texas	30.12	765 0	30.15	765.8	62	16.7	100	SE	14	6.3	.....	.....	10n	.....	SE	3.98	101.1	Light rain...	
Jacksboro, Texas	29.01	736.8	30.16	766.1	50	10.0	93	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Jacksonville, Florida	30.39	771.9	30.41	772.4	56	13.3	87	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Keokuk, Iowa	29.47	748.5	30.09	764.3	52	11.1	93	N	7	3.1	.....	.....	10s	.....	Calm	2.30	58.4	Cloudy.....	
Key West, Florida	30.21	767.3	30.24	768.1	72	22.2	80	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Kittyhawk, North Carolina	30.44	773.2	30.47	773.9	50	10.0	100	Calm	0	0	.....	5c	Fog	.....	Calm	0	0	Fair.....	
Knoxville, Tennessee	29.38	746.2	30.42	772.7	47.5	8.6	93	NE	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
La Crosse, Wisconsin	29.43	747.5	30.20	767.1	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0.54	13.7	Clear.....	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	34	1.1	90	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.....	
Laredo, Texas	29.80	756.9	30.15	765.8	58	14.4	88	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.26	743.2	30.11	764.8	62	11.1	93	N	7	3.1	.....	.....	10s	.....	.....	0.73	18.5	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.89	759.2	30.25	768.3	65	18.3	89	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Los Angeles, California	29.75	755.6	30.10	764.5	44.5	6.9	88	Calm	0	0	.....	Haze	2s	Calm	Calm	0	0	Fair.....	
Louisville, Kentucky	29.65	753.1	30.20	767.1	60	15.6	65	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Lynchburg, Virginia	29.75	755.6	30.45	773.4	49	9.4	93	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Threatening	
Madison, Wisconsin	29.13	739.9	30.12	765.0	39	3.9	91	NW	8	3.6	.....	0	0	.....	.....	0.50	12.7	Clear.....	
Marquette, Michigan	29.34	745.2	30.05	763.3	39	3.9	64	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Mason, Texas	28.46	722.9	30.25	768.3	50	10.0	93	SW	3	1.3	.....	0	Fog	.....	Calm	0.03	0.8	Foggy.....	
Memphis, Tennessee	29.94	760.5	30.28	769 1	61	16.1	98	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.38	746.2	30.12	765.0	43	6.1	92	NW	9	4.0	.....	0	5s	.....	NW	0.32	8.1	Fair	
Mobile, Alabama	30.27	768.8	30.32	770.1	62	16.7	100	SE	11	4.9	.....	0	5s;hz	.....	SE	0	0	Fair	
Montgomery, Alabama	30.17	766.3	30.41	772.4	59	15.0	94	SE	4	1.8	.....	5k	0	SE	.....	0	0	Fair	
Morgantown, West Virginia	29.27	743.4	30.26	768.6	60	15.6	65	SW	8	3.6	.....	2cs	2s	NW	Calm	0	0	Fair	
Mt. Washington, N. H.	23.74	603.0	30.10	764.5	32	0.0	100	NW	84	37.5	.....	.....	Fog	.....	NW	0.07	1.8	Foggy	
Nashville, Tennessee	29.80	756.9	30.33	770.4	61	16.1	71	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
New Haven, Connecticut	30.24	768.1	30.36	771.1	41	5.0	82	Calm	0	0	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.30	769.6	30.35	770.9	42	5.6	87	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
New Orleans, Louisiana	30.20	767.1	30.26	768.6	67	19.4	84	SE	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.29	769.4	30.34	770.6	43	6.1	92	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	48	8.9	100	N	.....	.....	1	0	Fog	.....	Calm	.....	.....	Fair	
New York, New York	30.20	767.1	30.38	771.6	39	3.9	63	SW	4	1.8	.....	Haze	8s	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.40	772.1	30.46	773.7	45	7.2	84	E	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.24	691.9	30.00	762.0	19	— 7.2	85	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.62	752.3	29.66	753.4	41.0	5.0	91	S	14	6.3	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	
Omaha, Nebraska	29.03	737.3	30.19	766.8	31	— 0.6	79	N	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Oswego, New York	29.74	755.4	30.06	763.5	47	8.3	70	S	20	8.9	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Pembina, Dakota	29.35	745.5	30.29	769.4	— 4	—20.0	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.33	770.4	30.36	771.1	64	17.8	89	E	14	6.3	.....	2k	0	SE	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.34	770.6	30.39	771.9	38	3.3	81	SE	4	1.8	.....	2cs	Fog;sm	Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.92	734.6	30.79	782.1	41	5.0	82	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.76	451.1	29.97	761.2	11	—11.7	20	SW	24	10.7	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.39	746.5	30.22	767.6	66	13.3	93	S	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	
Pioche, Nevada	.....	.....	.....	.....	25	— 3.9	50	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.41	747.0	30.22	767.6	58	14.4	70	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.86	745.7	30.03	762.7	46	7.8	92	SW	10	4.5	.....	.....	10n	.....	Calm	0.50	12.7	Light rain	
Portland, Maine	30.17	766.3	30.22	767.6	37	2.8	90	S	12	5.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Portland, Oregon	29.81	757.2	29.88	758.9	45	7.2	80	S	17	7.6	.....	.....	10n	.....	SW	0.02	0.5	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	93	NE	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.84	630.9	30.20	767.1	25	— 3.9	87	Calm	.....	.....	0	1cs	0	Calm	.....	0	0	Clear	
Punta Rassa, Florida	30.28	769.1	30.30	769.6	66	18.9	89	NE	10	4.5	.....	2c	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.86	758.4	30.23	767.8	39	3.9	96	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Rio Grande City, Texas	29 90	759.4	30.11	764.8	64	17.8	89	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.40	746.7	30.02	762.5	52	11.1	81	W	16	7.2	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.50	749.3	30.08	764.0	42	5.6	83	Calm	0	0	.....	8k	2ks	W	W	0.08	2.0	Cloudy	
Sacramento, California	30.12	765.0	30.20	767.1	42	5.6	91	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.57	751.1	30.14	765.5	59	15.0	100	W	3	1.3	.....	.....	10n	.....	SW	1.01	25.7	Light rain	
St. Paul, Minnesota	29.36	745.7	30.24	768.1	28	— 2.2	77	SW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Salt Lake City, Utah	25.72	653.3	30.04	763.0	23	— 5.0	47	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
San Antonio, Texas	29.43	747.5	30.01	762.2	58	14.4	100	N	2	0.9	.....	.....	10s	.....	Calm	0.83	21.1	Cloudy	
San Diego, California	30.04	763.0	30.11	764.8	46	7.8	100	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sandusky, Ohio	29.46	748.3	30.12	765.0	54	12.2	93	W	6	2.7	.....	.....	10n	.....	Calm	0.18	4.6	Heavy rain	
Sandy Hook, New Jersey	30.36	771.1	30.39	771.9	39	3.9	82	SW	5	2.2	.....	8cs	0	N	.....	0	0	Fair	
San Francisco, California	30.15	765.8	30.22	767.6	43	6.1	83	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	29.35	693.1	29 89	759.2	18	— 7.8	68	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.36	771.1	30.45	773.4	58	14.4	94	Calm	0	0	.....	0	8s	.....	SE	0	0	Fair	
Shreveport, Louisiana	29.97	761.2	30.19	766.8	65	18.3	89	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.42	772 7	30.46	773 7	52	11.1	93	N	6	2.7	.....	1k	Fog	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.51	647.9	29.58	751.3	31	— 0.6	58	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.46	748.3	30.13	765.3	57.6	14.2	91	NW	2	0.9	.....	.....	10n;fg	.....	W;Calm	0.42	10.7	Light rain	
Springfield, Massachusetts	30.17	766.3	30.31	769.9	39	3.9	82	SW	5	2.2	.....	0	8ks	.....	W	Inap.	Inap.	Cloudy	
Stockton, Texas	7.05	687.1	30.05	763.3	40	4.4	25	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.18	766.6	30.24	768.1	42	5.6	83	S	21	9.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Toledo, Ohio	29.40	746.7	30.08	764.0	53	11.7	100	W	18	8.0	.....	.....	10n	.....	W	0.68	16 0	Light rain	
Tucson, Arizona	27.53	699.2	30.08	764.0	48	6.1	75	S	.....	.....	1	8ck	0	N	.....	0	0	Fair	
Umatilla, Oregon	29.59	750.8	30.07	763.8	35.0	1.7	70	Calm	0	0	.....	0	8ks	.....	W	0.07	1.8	Cloudy	
Uvalde, Texas	29.22	742.2	30.04	763.0	56	13.3	94	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.02	762.5	30.28	769.1	62	16.7	100	SE	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Virginia City, Montana	24.18	614.2	29.66	753.4	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.77	756.1	30.16	766.1	41.5	5.3	91	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Washington, D. C.	30.29	769.4	30.41	772.4	37	2.8	90	S	5	2.2	.....	2c	2s	Calm	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	70	NW	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	30.39	771.9	30.47	773.9	47	8.3	92	W	1	0.4	.....	1ck	0	Calm	.....	0	0	Clear	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	21	— 6.1	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.29	769.4	30.33	770.4	46	7.8	92	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.96	735.6	30.33	770.4	27	— 2.8	76	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.95	760.7	30.10	764.5	47	8.3	70	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*J. B. Gordon.
Havana, Cuba, W. I.	30.09	764.3	30.14	765.5	76	24.4	76	E	2.4	1.1	.....	4c	8ks	W	E	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0	.....	2k	2s	Calm	.....	0	0	.....	James Gall.
Nassau, W. I.	29.98	761.5	30.00	763.5	78	25.6	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	81	27.2	83	E	.....	.....	2	3c	5k	E	.....	0.070	1.78	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.10	764.5	30.12	765.0	74	23.3	81	N	14.4	6.4	.....	0	4s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.11	764.8	30.16	766.1	—40.5	—40.3	.....	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,801 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.96 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.30‡	769.6‡	.....	.....	66	18.9	94	NE	10	4.5	.....	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.15‡	765.8‡	.....	.....	39	3.9	91	S	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.72‡	754.9‡	.....	.....	39.6	4.2	42	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.25‡	768.3‡	.....	.....	46	7.8	100	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Alaska, Arica, Peru.....*	29.88‡	758.9‡	.....	.....	69	20.6	75	SE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.....	30.33‡	770.4‡	.....	.....	39	3.9	100	SE	1	0.4	.....	.....	10	.....	SW	0	0	.....	.....	Hazy.....	
Constitution, Fort de France, Martinique	29.97‡	761.2‡	.....	.....	75	23.9	100	ENE	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Heavy rain..	
Enterprise, Constantinople, Turkey	30.07‡	763.8‡	.....	.....	40	4.4	91	SW	.....	.....	3	.....	10	.....	SSW	.....	.....	Mod'ate	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.51‡	774.9‡	.....	.....	43	6.1	92	SSW	1.8	0.8	.....	.....	2	.....	SW	0	0	.....	.....	Clear.....	
Independence, Mare I'd, Navy Yard, Cal.	30.20‡	767.1‡	.....	.....	43	6.1	92	S	3.6	1.6	.....	.....	10	.....	S	0	0	.....	.....	Overcast.....	
Kearsarge, Balize, British Honduras.	30.08‡	764.0‡	.....	.....	76	24.4	91	NNE	.....	.....	2–5	.....	10	.....	NNE	.....	.....	Smooth	.....	Light rain...	
Lackawana, Honolulu, Sandwich Id's†	29.99‡	761.7‡	.....	.....	75	23.9	72	NE	.....	.....	2–3	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Marion, N. 17° 33', W. 43° 40'.....	30.04‡	763.0‡	.....	.....	75	23.9	77	ESE	.....	.....	4	.....	8	.....	ENE	0	0	Mod'ate	ENE	Cloudy.....	
Michigan, Erie, Pa.....	30.04‡	763.0‡	.....	.....	59	15.0	76	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Raining.....	
Monocacy, Shanghai, China.....	30.36‡	771.1‡	.....	.....	34	1.1	43	NE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.47‡	773.9‡	.....	.....	62	16.7	94	NE	4	1.8	..	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Nipsic, N. 33° 35', W. 72° 08'.....	30.46‡	773.7‡	.....	.....	69	20.6	90	E	.....	.....	3	.....	8	.....	.....	.....	.....	Short	ESE	D. clouds.....	
Onward, Callao, Peru ....†.	29.89‡	759.2‡	.....	.....	67	19.4	89	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Mod'ate	W	Foggy.....	
Palos, Tientsin, China.....	30.30‡	769.6‡	.....	.....	27	— 2.8	76	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	30.42‡	772.7‡	.....	.....	38	3.3	91	W	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	65	18.3	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.37‡	771.4‡	.....	.....	41	5.0	74	WSW	.....	.....	2	.....	8	.....	S;W	0	0	.....	.....	Hazy.....	
Quinnebaug, Villafranca, France.....	30.35‡	770.9‡	.....	.....	54	12.2	74	SE	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Ranger, Honolulu, Sandwich Id's.	29.98‡	761.5‡	.....	.....	75	23.9	81	ENE	.....	.....	3	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
Richmond, Hong-Kong, China.....	30.12‡	765.0‡	.....	.....	60	15.6	60	S	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Rio Bravo, Brownsville, Texas... †.	30.19‡	766.8‡	.....	.....	70	21.1	100	SSE	2	0.9	.....	.....	10	.....	S	0.11	2.8	.....	.....	Cloudy.....	
Santee, Annapolis, Md.....	30.44‡	773.2‡	.....	.....	42	5.6	91	S	.....	.....	1	.....	5?	.....	SW	0	0	.....	.....	Cloudy?.....	
Shenandoah, Montivideo, Uruguay....	29.61‡	752.1‡	.....	.....	78	25.6	67	N	.....	.....	1	.....	5	.....	N	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.33‡	770.4‡	.....	.....	33	0.6	89	Calm	0	0	.....	.....	5	.....	W	0	0	.....	.....	Fair.....	
Tennessee, Brooklyn, N. Y.....	30.39‡	771.9‡	.....	.....	38	3.3	91	SW	4	1.8	.....	.....	7	.....	SW	0	0	.....	.....	D. clouds ...	
Trenton, Villafranca, France.....	30.35‡	770.9‡	.....	.....	55	12.8	74	E	.....	.....	1	.....	10	.....	.....	0	0	Smooth	.....	D. clouds.....	
Tuscarora, San José, Guatemala....	29.93‡	760.2‡	.....	.....	73	22 8	85	W	.....	.....	1	.....	0	.....	.....	.....	.....	Long	S	Clear.....	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.38‡	771.6‡	.....	.....	41	5.0	82	SSW	.....	.....	1	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	30.26‡	768.6‡	.....	.....	39	3.9	91	SW	8	3.6	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wachusett, Montivideo, Uruguay.†	30.23‡	767.8‡	.....	.....	74	23 3	63	N	.....	.....	3	.....	2	.....	SW	.....	.....	Mod'ate	WNW	Cloudy.....	
Wyoming, Villafranca, France.....	30.35‡	770.9‡	.....	.....	55	12.8	74	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.			CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.	Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	Upper.	Lower.					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																		
ALLAN LINE MARINE SERIES.																		
S. S. Caspian, M. Trocks																		W. E. Jago.
S. S. Circassian																		R. Carruthers.
S. S. Hibernian																		John France.
S. S. Moravian, J. Graham																		
S. S. Peruvian																		A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																		A. D. Air.
S. S. Sarmatian, A. D. Air																		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford, Philadelphia, Pa.†		30.38‡	771.6‡	35	1.7	90	SW			1		5		W				Fair	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, N. 50° 53′, W. 15° 40′		30.40‡	772.1‡	52	11.1		SSW			6		9		S	0	Mod'ate	SW	Cloudy	Wm. Shackford.
S. S. Ohio, Henry Morrison																		

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																		

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 43° 35′, W. 46° 45′		30.14‡	765.5‡	30.6	—0.8	89	NNW			6–7		9k		N		Mod'ate	NW; N	Snowing	H. Buckland.
S. S. Scythia, W. H. O. Hains																		

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Amerika, C. Pohle																		C. Undütsch.
S. S. Braunschweig, C. Undutsch																		
S. S. Leipzig, F. Pfeiffer, N. 44° 05′, W. 47° 50′		30.29‡	769.4‡	28.0	— 2.2	100	NNW			6		8		NNW	0	Long	NNW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.42‡	772.7‡				W			4		5		W		Mod'ate	W	Cloudy?	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																		D. A. Joyce.
S. S. Gaelic, Davidson, N. 31° 00′, E. 130° 53′		30.02‡	762.51	52	11.1		WNW			4		ks		NW	Consid'ble	Rough	W	Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																		

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																		J. M. Lachlan.
S. S. Oregon																		

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																		
S. S. Idaho, E. Alexander																		
S. S. Orizaba																		
S. S. State of California, G. Debney																		

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			F. LeLack.
S. S. City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z-alandia, R. C. Ghest. S. 34° 13′, E. 168° 04′		29.79‡	756.7‡				SE			6				E		Rough	SE	Overcast	

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

RED STAR LINE MARINE SERIES.

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

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 13° 26′, W. 31° 55′		29.85‡	758.2‡	60	26.7		ESE			4		0				Smooth		Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 5, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.35	770 9				NE			1		1			0	0	Very fair	
Nemours			30.40	772.1	59.5	15.3	80	Calm			0		0			0	0	Clear.	Kesxuche.
Algiers			30.39	772 0	59.0	15.0	62	ENE			1		0			0	0	Clear.	Tourlliere.
La Calle			30.41	772.4	59.9	15.5	71	SW			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques
Sfax																			Gau.
Saida			30.46	773.7															Herbin.
Tebessa			30.39	771.8															Watrin.
Geriville			30.45	773.4	50.7	10.4	56	WSW			1		4			0	0	Cloudy	Brugnisaux.
Laghouat								S			2		0			0	0	Clear	Bertrand.
Biskra			30.44	773.2	49.3	9.6	38	WNW			1		9			0	0	Covered	Chanvaux.
			30.42	772.6	58.3	14.6	76	NW			1		9			0	0	Covered	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.82	757.3	30.41	772.3	26.6	— 3.0	100					10				0	0	Dense fog	
Eperies	29.47	748.6	30.28	769.0	35.6	2.0	93	W	9.8	4.4		10				0.102	2.6		Dr. Wierzbicki.
Grutz	29.25	742.9	30.16	766.1	36.9	2.7	84	NW			3	108				0	0		Julius Mikolik.
Hermannstadt	29.10	739.1	30.42	772.7	34.0	1.1	69	S			1	0				0	0		Andreas Rospini.
Kremsmünster	28.68	728.5	30.18	766.5	33.3	0.7	77	NW			4	10				0.209	5.30		Prof. A. Gottschling.
Lemberg	29.09	738.8	30.47	773.9	33.3	0.7	87	WNW			1	2				0	0		Prof. C. Wagner.
Pola	29.28	743.6	30.32	770.2	36.6	2.5	91	NW			1	10				0.087	2.2		Dr. T. Stanecki.
Szathmar	30.28	769.1	30.39	772.0	43.9	6.6	88	NW			1	8				0	0		I.R.Hydrographic Office
Szegedin	29.74	755.4	30.23	767.9	31.3	— 0.4	96	W			3	10				0	0		Pet. Pancsics, S. J.
Trieste	29.97	761.2	30.26	768 6	39.6	4.2	77	NW			2	10				0	0		Karl Stancel.
Vienna	30.32	770.1	30.42	772.7	36.6	2.2	100	Calm			0	10				0	0	Foggy	P. Busin.
	29.60	753.4			40.6	4.8		WNW			3					0	0		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.31	769.9	30.52	775.3	37.9	3.3	70	SE			2	0	10		SE	0	0		Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck	30.43	773.0	30.56	776.2	39.0	3.9	74	SE			2		10			0.051	1.3		M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.09	764.3	30.19	766.8	45.0	7.2	.....	S	12	5.4	.....	.....	7	.....	.....	0.050	1.27	D. clouds	W. Boswell.
Ardrossan	30.21	767.3	30.23	767.8	48	8.9	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	Wm. McNeil & G. Carrick
Armagh, (Observatory)	29.98	761.5	30.21	767.3	49.8	9.9	.....	S	14	6.3	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.36	771.1	46 0	7.8	.....	SSE	15	6.7	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.83	757.7	30.36	771.1	42.9	6.1	.....	S	12	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.99	761.7	30.38	771.6	44.8	7.1	.....	NW	.....	.....	3	.....	9	.....	.....	0.01	0.3	Overcast	J. McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	75	23.9	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.38	771.6	30.48	774.2	43.0	6.1	.....	SW	.....	.....	1	.....	7ks	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.45	773.4	42.0	5.6	.....	SW	.....	.....	0–1	.....	9	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.38	771.6	30.52	775.2	40.1	4.5	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper, R.E.
Donaghadee	30.20	767.1	30.25	768.3	48	8.9	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.48	774.2	30.51	774.9	39	3.9	.....	S	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	J. Costello.
Falmouth (Observatory)	30.17	766.3	30.40	772.1	48.1	8.9	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Rain & fog	The Staff.
Fort Napier, Natal	27.59	700.8	29.90	759.4	74 0	23.3	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.43	747.5	48	8.9	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.02	762.5	30.22	767.6	47.9	8.8	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Cloudy	D. G. Maclean. [C.
Great Yarmouth	30.48	774.2	30.49	774.4	38	3.3	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich (Royal Obs'y)	30.32	770.1	30.50	774.7	41.0	5.0	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	30.22	767.6	30.45	773.4	40.5	4.7	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Dr. S. E. Hoskins, F.R.S.
Helston	30.50	774.7	30.62	777.7	50	10.0	.....	SE	.....	.....	4	.....	10n	.....	.....	0.15	3.8	Raining	M. P. Moyle.
Holyhead	30.27	768.8	30.33	770.4	48	8.9	.....	S	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	30.21	767.3	30.52	775.2	35.3	1.8	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy & Misty	J. Fisher.
Kew (Observatory)	30.46	773.7	29.50	774.7	40.1	4.5	.....	S	2	0.9	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.30	769.6	30.56	776.2	43.8	6.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.31	769.9	30.38	771.6	58	14.4	.....	NE	.....	.....	2	.....	4k	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.96	761.0	30.06	763.5	50	10.0	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.22	767.6	73.0	22.8	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.26	768.6	30.45	773.4	44.5	6.9	.....	S	.....	.....	2	.....	10kd	.....	SW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.90	759.4	30.44	773.2	43.0	6.1	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.34	770.6	30.42	772.7	48.7	9.3	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	30.15	765.8	30.24	768.1	50	10.0	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	30.19	766.8	30.36	771.1	47	8 3	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.03	762.7	46	7.8	.....	SW	12	5.4	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.12	765.0	30.18	766.6	41.8	5.4	.....	N	.....	.....	2	.....	2	.....	.....	Blank	Blank	Blue sky	Serg't W. H. Lyne.
Sheffield	30.16	766.1	30.44	773.2	46.0	7.8	.....	SSW	.....	.....	1	.....	1θ	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.28	769.1	30.30	769.6	49.5	9.7	72	W	.....	.....	4	.....	5	.....	.....	0.020	0.51	D. clouds	Francis Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.38	771.6	43.5	6.4	.....	SW	4	1.8	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	41.5	5.3	.....	SW	.....	.....	0–1	.....	9	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.35	770.9	30.41	772.4	50	10.0	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	30.21	767.3	30.23	767.8	50.3	10.2	.....	S	17	7.6	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.00	762.0	30.04	763.0	71.2	21.8	50	S	26.3	11.8	.....	0	1	.....	.....	0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2	.....	.....	76	24.4	.....	NW	.....	.....	.....	5n	7n	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	85	29.4	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.39	772	61.7	16.5	.....	NE	.....	.....	Slight	.....	Slight	.....	.....	0	0	Fine	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.25	768.3	49.4	9.7	.....	SW	.....	.....	4	.....	5k	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.72	754.9	29.91	759.6	81.0	27.2	60	E	24.0	10.7	.....	0	4	.....	ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.85	758.2	29.94	760.5	58.2	14.6	85	SE	6	2.7	.....	.....	0	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.02	762.5	49	9.4	.....	SW	.....	.....	4	10	5	SW	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	29.97	761 2	.....	.....	.....	S	.....	.....	6	.....	8	.....	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale feet	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.54‡	750.3‡	61.5	16.4	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 47° 25′, W. 20° 55′	.....	.....	29.94	760.5	57	13.9	.....	S	.....	.....	6	.....	10	.....	.....	6	SSW	Showery	Capt. A. J. Brown
City of Cashmere, S. 44° 06′, W. 121° 48′	.....	.....	30.06‡	763.5‡	49.6	9.8	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 24° 35′, W. 59° 35′	.....	.....	30.18‡	766.6‡	73.3	22.9	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S. Ethiopia, N. 48° 20′ W. 44° 00′	.....	.....	29.78	756.4	35	1.7	.....	SSW	.....	.....	6	.....	10	.....	.....	6	WNW	Threatening	Capt. Campbell.
Barque Fedalma, N. 34° 0′, W. 46° 15′	.....	.....	30.26	768.6	55	12.8	.....	WSW	.....	.....	3	.....	10	.....	.....	5	NW	Overcast	Capt. H. L. Fox.
S. S. German, S. 18° 59′, E. 3° 49′	.....	.....	29.98‡	761.5‡	71	21.7	.....	SE	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Strathleven, N. 11° 55′, E. 52° 00′	.....	.....	29.86‡	758.4‡	73.0	22.8	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. C. W. Pearson.
S. S. Sunbeam, N. 49° 05′, W. 14° 15′	.....	.....	30.20	767.1	55	12.8	.....	S	.....	.....	6	.....	10	.....	.....	5	SSW	Drizzling	Capt. C. M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer, corrected for instru-m'tal error and temperature: Inches.	Barometer, corrected: Millimeters.	Barometer, reduced to sea-level: Inches.	Barometer, reduced to sea-level: Millimeters.	Temperature of the air: Fahrenheit.	Temperature of the air: Centigrade.	Relative humidity: Per cent.	Wind direction: From—	Wind velocity: Miles per hour.	Wind velocity: Meters per second.	Wind force: 0—10.	Clouds amount, Up'er: 0—10.	Clouds amount, L'w'r: 0—10.	Clouds direction, Upper: From—	Clouds direction, Lower: From—	Rain-fall or melted snow in the past 24 hours: Inches.	Rain-fall: Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759 4	67.1	19.5	86	NE			2	8ck;d		E		0	0		Federico Maison.

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

DANISH SERIES.

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

STATIONS.	Baro. corr. Inches.	Baro. corr. Millimeters.	Sea-level Inches.	Sea-level Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds L'w'r 0—10.	Clouds Upper from—	Clouds Lower from—	Rain Inches.	Rain Millimeters.	Weather.
Copenhagen	30.34	770.6	30.39	771.8	34.7	1.5	100	NW			2		10					Foggy
Fanöe	30.43	772.8	30.45	773.3	38.7	3.7	97	SW			2		10					
Godthaab (Greenland)																		
Stykkisholm (Iceland)	29.00	736.5	29.04	737.6	30.9	— 0.6	96	SW			4		8					Snowing
Thorshavn (Faröe)	29.61	752.1	29.65	753.0	46.0	7.8	90	SSW			8		10					
Vestervig	30.29	769.4	30.40	772.2	36.3	2.4	100	WSW			2		10					Foggy

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

FRENCH SERIES.

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

STATIONS.	Baro. corr. Inches.	Baro. corr. Millimeters.	Sea-level Inches.	Sea-level Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds L'w'r 0—10.	Clouds Upper from—	Clouds Lower from—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Alençon, Normal School	29.96	760.9	30.51	774.9	34.5	1.4	93	ENE			1		10k		NW	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.36	771.0	30.47	773.9	40.3	4.6	87	W			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.24	768.0	30.51	774.9	37.4	3.0	72	SE			2		5s		NE	0	0	Cloudy	Klein, Commandant.
Avignon, Normal School	30.40	772.1	30.48	774.1	42.1	5.6	69	N			1		5		S	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.91	759.8	30.51	775.0	31.5	— 0.3	89	SSE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.24	768.2	30.53	775.4	37.2	2.9	81	ENE			1		10		ESE	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.58	751.3	30.53	775.5	31.3	— 0.4		NNE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.23	767.8	30.43	772.8	36.1	2.3	87	NW			1		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.62	752.4	30.54	775.7	33.8	1	73	W			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.90	759.5	30.49	774.4	33.4	0.8	96	E			1		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.21	767.2	30.45	773.3	42.4	5.8	78	SSE			1		9		SSE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.40	772.2	30.44	773.1	37.4	3	86	SE			1		8		SE	0	0	Very cloudy	M. Bietrin, Director.
Carcassonne, N. School	30.01	762.3	30.44	773.2	41.5	5.3	87	W			1		10	WSW	WSW	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	30.19	766.9	30.53	775.5	33.8	1.0	96	S			1		8	W	W			Very cloudy	Jadot, Director
Chartres, Normal School	29.91	759.6	30.51	774.9	34.5	1.4	96	ENE			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.04	737.7	30.50	774.8	26.6	— 3.0	98	N			1		10			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.61	752.2	30.53	775.5	30.9	— 0.6		E			1		10	E	E	0	0	Foggy	Dr. Coullet, Director.
Commune de Gréasque*	29.34	745.1	30.48	774.1	45.0	7.2	75	NE			1		8	Calm	NE	0	0		L. Kina, Director.
Grenoble, Normal School	29.68	753.9	30.50	774.7	32.0	0		E			1		8n		NW	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.27	768.8	30.50	774.6	34.9	1.6	89	NW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	30.20	767.1	30.53	775.5	34.5	1.4	85	ESE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.51	749.5	30.47	773.8	29.8	— 1.2	95	NNE			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.40	772.1	30.51	774.9	37.4	3.0	93	SE			1		10			0.020	0.5	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.84	757.9	30.50	774.7	32.0	0.0	91	W			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.14	765.6	30.42	772.6	49.5	9.7	67	ENE			1		10		SSE	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.36	745.7	30.47	774.0	29.8	— 1.2	96	NE			1		10			0	0	Foggy	Barbier, Director.
Mont-Louis	25.07	636.7	30.38	771.7	39.6	4.2	52	SE	9.4	4.2			0			0	0		M. Cave
Nice	30.43	772.8	30.46	773.6	51.4	10.8	71	NW			1		5	SW	NW	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.21	767.2	30.42	772.6	44.4	6.9	69	E			1		cn		E	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.21	767.4			36.1	2.3	79	NE			1		5k		SW	0	0		Marié Davy, Director.
Perpignan	30.33	770.4	30.45	773.3	47.7	8.7	62	N	5.6	2.5			0			0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.70	576.5			36.0	2.2									SSW	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.36	745.8	30.51	774.9	30.6	— 0.8		N			1		10	NE	NE	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	25.39	644.8			36.5	2.5	61	SSE			1		5	SW		0	0	½ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.45	773.5	30.48	774.3	34.7	1.5	96	ENE			1			ENE	ENE	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	30.43	772.8	30.51	775.0	34.2	1.2	89	E			1		10			0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.44	773.3	30.48	774.1	31.6	—0.2	98	SSE			2		10			0	0	Foggy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.34	770.6	30.50	774.8	36.7	2.6	78	NE			1		5	SSW	S	0	0		E. Renou, Director.
Tarbes, Normal School	29.33	744.9	30.44	773.2	46.4	8	59	W			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.77	756.2	30.50	774.8	39.2	4.0	90	SE			1		10			0	0	Covered	M. Julier Mercadier.
Tours	30.28	769.1	30.48	774.1	34.9	1.6	93	E			1		10			0	0	Covered	Cousin-Marquet.
Versailles, Observatory	30.00	762.1	30.50	774.6	35.6	2.0	85	NE			1		10			0	0	Lightly cov'd	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.78	756.4	30.54	775.8	32.5	0.3	98	WNW			1					0	0	Foggy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	75.6	24.2										0.20	5.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.30	769.6	30.32	770.2	30.0	—1.1	84	ESE	2.5	1.1			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant [illegible] millimeters, or 5.215 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.63	752.6	30.50	774.8	35.2	1.8	85	E			2		10ks	E		0	0		Prof. Dr. Hoh.
Berlin	30.30	769.6	30.48	774.2	39.9	4.4	84	NW			3		10			0.004	0.1		Prof. Dr. Arndt.
Breslau	29.83	757.6	30.37	771.3	37.9	3.3	85	NW			6		10	N		0	0		Royal University Obs'y.
Carlsruhe	30.05	763.3	30.51	774.9	36.7	2.6	78	NE			1		6			0	0		Albert Senz.
Cassel	29.91	759.8	30.53	775.5	39.2	4.0	71	NW			3		7			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.15	765.7	30.53	775.5	38.8	3.8	52	NE			1		9			0	0		Physical Society.
Friedrichshafen	29.02	737.2	30.55	776.0	31.3	— 0.4	89	NE			1		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.43	772.8	30.50	774.6	38.5	3.6	95	W			2		10			0.028	0.7	Dense fog	Dr. Reinhold Kleeman.
Kiel	30.46	773.6	30.47	774.0	38.1	3.4	92	WNW			2		10			0.015	0.37		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.06	763.4	30.14	765.6	37.4	3.0	79	NW			2		7			0.016	0.4		Prof. E. Luther.
Köslin			30.31	769.9	38.1	3.4		W			2		0			0	0		H. Müller.
Leipsic Observatory	30.09	764.2	30.53	775.4	38.3	3.5	85	WNW			2		10			0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.28	769.0	30.51	774.9	40.6	4.8	82	WNW			2		10ks	NW		0	0		Dr. Assmann.
Memel	30.05	763.2	30.10	764.4	36.3	2.4	84	NNW			2–3		10k						Reinbrecht & Issermann.
Munich (München)	28.62	726.9	30.51	775.0	28.2	— 2.1	100	N			2		10			0	0	Dense fog	Dr. C. Lang.
Neufahrwasser	30.21	767.3	30.23	767.7	37.9	3.3	82	NNW			4		4			0	0		A. Lothes.
Neustadt (Palatinate)	30.01	762.2	30.54	775.8	37.6	3.1	73	E			1		4			0	0		Reallehrer Dicknether.
Posen	30.02	762.4	30.32	770.1	38.1	3.4	78	W			6		10			0.035	0.9		Prof. Dr. Magener.
Strassburg (in Alsace)	29.97	761.1	30.56	776.1	28.8	— 1.8	100	Calm			0		10			0	0	Foggy	Imp. University Observatory.
Stuttgart	29.82	749.9	30.52	775.2	34.7	1.5	72	S			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.09	764.3	30.28	769.1	39.4	4.1	81	NW			4		7			0.008	0.2		Dr. Cunerth.
Weissenburg (Bavaria)	28.99	736.3	30.60	777.1	33.4	0.8	77		0.9	0.4			10		SE	0	0		Reallehrer J. Hopfner
Wustrow	30.43	772.9	30.46	773.6	36.3	2.4	96	SW			3		10s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.90	759.5	30.31	769.8	46.9	8.3		NW			2.0		0					Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.95	760.8	30.01	762.1	72.3	22.4	25	NE	4	1.8			0			0	0	Blue sky	
Deesa	29.51	749.5	29.99	761.8	74.3	23.5	32	WNW	8.0	3.6			0			0	0	Blue sky	
Bombay	29.83	757.7	29.87	758.7	76.3	24.6	76	NW	10	4.5			0			0	0	Blue sky	
Poona (Yarrowda)	27.90	708.7	29.75	755.5	80.1	26.7	12	NE	5	2.2			0			0	0	Blue sky	
Belgaum	27.41	693.7	29.84	758.0	77.1	25.1	31	NE	6	2.7			1	S		0	0	D. clouds	
Lahore	29.20	741.6	29.98	761.4	58.6	14.8	54	Calm	1.1	0.5			3			0	0	Blue sky	
Roorkee	28.99	736.3	29.92	760.0	62.0	16.7	51	W	2.2	1.0			2			0	0	D. clouds	
Agra	29.38	746.2	29.96	761.1	65.8	18.8	53	W	3.8	1.7			0			0	0	Blue sky	
Nagpur	28.84	732.6	29.90	759.4	75.8	24.3	47	NE	2.9	1.3			0			0	0	Blue sky	
Jubbulpore	28.48	723.4	29.87	758.8	69.2	20.7	16	Calm	2.0	0.9			0			0	0	Blue sky	
Lucknow	29.54	750.2	29.93	760.2	64.3	17.9	46	NW	0.7	0.3			0			0	0	Blue sky	
Allahabad	29.62	752.4	29.95	760.8	59.2	15.1	70	Calm	1.8	0.8			0			0	0	Blue sky	
Patna	29.76	755.9	29.95	760.7	66.2	19.0	55	W	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.85	707.4	29.92	760.0	63.3	17.4	59	NW	4.4	2.0			0			0	0	Blue sky	
Cuttack	29.83	757.8	29.92	759.9	75.8	24.3	63	NE	3.2	1.4			10			0	0	Overcast	
Jalcutta (Allpore)	29.89	759.2	29.91	759.8	66.8	19.3	71	Calm	3	1.3			0			0	0	Blue sky	
Goalpara	29.48	748.7	29.88	758.8	70.9	21.6	57	Calm	3.6	1.6			0			0	0	Blue sky	
Chittagong	29.82	757.3	29.91	759.7	71.3	21.8	94	Calm	0.7	0.3			8			0	0	Misty	
Sibsagar	29.55	750.5	29.90	759.4	63.4	17.4	75	ENE	1.6	0.7			2			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.99	761.7	30.42	772.7	35.8	2.1	81	SW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.91	759.8	30.46	773.8	31.3	— 0.4	87	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.31	769.9	30.43	772.9	29.1	— 1.6	86	W	0.7	0.3	.....	.....	8	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.48	748.8	30.43	772.8	30.9	— 0.6	84	W	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.26	768.5	30.46	773.7	49.5	9.7	71	E	1.3	0.6	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.43	722.0	30.42	772.7	42.4	5.8	38	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.38	771.7	30.43	773.0	32.4	0.2	89	W	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.21	767.3	30.48	774.3	37.4	3.0	86	E	.....	.....	2	.....	5	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.37	771.4	30.46	773.7	43.3	6.3	83	NE	4.9	2.2	.....	.....	9	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.25	768.4	30.43	773.0	51.8	11.0	60	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.12	765.0	30.38	771.0	51.4	10.8	67	NNW	13.0	5.8	.....	.....	3	N	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.52	749.7	30.44	773.1	48.2	9.0	71	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.01	762.2	30.21	767.3	55.0	12.8	59	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.17	766.3	30.43	772.9	55.8	13.2	66	NE	2.5	1.1	.....	.....	1	W	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.35	770.8	30.39	772.0	54.9	12.7	67	W	3.8	1.7	.....	.....	4	NNE	.....	0.055	1.4	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.87	758.7	30.41	772 5	51.4	10.8	57	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.09	764.3	30.11	764 8	34.5	1.4	61	WNW	4.7	2.1	.....	.....	2s	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767.1	36.5	2.5	72	N	3.1	1.4	.....	.....	9s	.....	.....	0	0	Cloudy.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.82	757.4	29.89	759.2	33.8	1.0	84	SE	3.0	1.3	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	30.00	762.0	30.06	763.5	38.6	3.7	63	NW	5.0	2.2	.....	.....	9ks	.....	.....	0	0	Cloudy	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	26.11	637.9	30.33	770.5	41.0	5.0	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.52	622.7	30.33	770.4	50.5	10.3	83	W	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.78	755.7	30.02	762.4	60.4	15.7	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	F. Quijano, C. E.
Mexico, Central Observatory	23.13	587.5	30.23	767.7	46.9	8.3	84	NW	0.2	0.1	.....	.....	10k	.....	NW	0	0	Covered	The Staff.
Morelia	24.08	611.5	.....	.....	58.6	14.8	65	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	M. Fena, M. D.
Pabellon (Aguascalientes)	24.03	610.3	30.15	765.7	60.5	10.3	72	W	.....	.....	2	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.51	597.2	30.44	773.2	44 6	7.0	44	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.29	616.9	30.39	772.0	48.7	9.3	56	E	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.08	764.0	30.09	764.3	71.9	22.0	94	Calm	.....	.....	0	2	7	N	NW	1.92	48.7	Raining	Prof. M. M. Chazaro.
Vera-Cruz	30.08	764.0	30.11	764.7	75.2	24.0	87	N	2.2	1.0	.....	9k	0	N	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.57	573.3	30.24	768.1	50.9	10.5	63	NE	.....	.....	2	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.55	776.0	30.55	776.0	37.8	3.2	.....	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Groningen	30.46	773.8	30.52	775.2	38.3	3.5	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.50	774.6	30.50	774.6	39.9	4.4	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.53	775.5	30.53	775.5	37.6	3.1	89	SSW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.7	30.55	775.9	37.6	3.1	86	SW	.....	.....	2	.....	10	.....	.....	0	0	Dull	H. v. d. Bruk.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	30.21	767.3	30.26	768.7	42.1	5.6	82	S	19.0	8.5			10			0.197	5.0		
Brönö	29.90	759.4	29.94	760.4	40.6	4.8	90	SSW	9	4			10			0.236	6.0	Raining	
Christiana	30.11	764.9	30.27	768.8	31.5	— 0.3	78	ENE	0	0			10			0	0	Light fog	
Tromsö	29.76	756.0	29.81	757.1	29.8	— 1.2	80	SW	7	3			10			0.087	2.2		

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.37	745.9	30.40	772.2	46.8	8.2	59	ENE	0.7	0.3			0			0	0		Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.24	768.1	30.33	770.3	64.2	17.9	57	SE	5.6	2.5			2			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	30.07	763.8	30.45	773.3	47.7	8.7	86	NNE	4.9	2.2			1			0	0		The Staff.
Ponta Delgada (Azores)	29.92	759.9	29.99	761.7	62.6	17.0	86	SW	30.4	13.6			10			0.189	4.8	Raining	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction form—		
Bartholomew Dias																		A. G. da Silva Costa, Com'd't.	
D. Fernando																		A. [illegible] Sande, Com'd't.	
Duque da Terceira																		J. C. M. Cabrate, 1st Lt.	
Mindello																		J. F. R. R. Bastos, Com'd't.	
Quanza, Capt. A. J. de Mattos																		H. de C. C. e Athayde.	
Rio Duro																		J. T. d'Oliveria, Com'd't.	
Rio Lima, Capt. S. C. da Silva Costa.																			
Porto Praya, Cape Verd Ids.					79.5	26.4		E			2		3		E	1	E	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira																		F. Teixeira da Silva, Comd't.	
Sado, Capt. J. A de Brito Capello,																			
St. Paul de Loando, Gulf of Guinea.			29.89	759.2	83.8	28.8		WNW			3		2		NW			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes,																			
Macao, China			30.24	768.0	65.4	18.0		N			2		0			1	N	Blue sky	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.60	751.8	29.62	752.3	25.2	— 3.8	95	S	2	1			10						Capt. Sseliwerstow.
Astrakhan	30.15	765.8	30.07	763.7	28.2	— 2.1	94	NE	4	2		10cp							Capt. Wisganow.
Barnaul	29.72	755.0	30.29	769.3	0.9	—17.3	96	Calm	0	0			9					Light clouds	Meteorological Obs.
Dorpat	29.74	755.5	30.00	762.0	30.6	— 0.8	98	W	7	3			10n					Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.16	740.7	30.19	766.8	20.7	— 6.3	82	WSW	9	4			10						Meteorological Obs.
Irkutsk																			
Kasan	29.77	756.2	30.07	763.6	18.7	— 7.4	93	SSE	4	2			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.29	744.0	29.96	761.0	33.1	0.6	76	NW	4	2			10ksn						Physical Cabinet.
Krotkowo*	29.63	752.6	30.14	765.5	19.9	— 6.7	88	S	9	4			10						Cand. Fatjanow.
Lugan	29.77	756.2	29.99	761.8	21.0	— 6.1	77	ESE	9	4			10			Blank	Blank		Meteorological Obs.
Moscow	29.26	743.1	29.82	757.5	30.2	— 1.0	80	W	7.8	3.5			10s					Snowing	Meteorological Obs.
Nertchinsk	27.83	706.8	30.50	774.7	—20.2	—29.0	65	Calm	0	0			0						Meteorological Obs.
Nikolaiev	29.95	760.8	30.02	762.6	34.9	1.6	82	Calm	0	0			7cs						Kurdakof.
Nukuss	29.81	757.2	30.06	763.5	26.6	— 3.0	87	NNE	7	3			1s						
Orenberg																			
Pekin (China)	30.18	766.6	30.32	770.2	21.2	— 6.0	44	Calm	0	0			0						Physical Observatory.
St. Petersburg	29.86	758.4	29.87	758.8	21.7	— 5.7	100	SW	4	2			10n						Central Physical Obs.
Tashkend	28.32	719.3	29.98	761.4	29.5	— 1.4	80	E	13	6			10						Teich, A. M.
Tiflis	28.60	726.5	30.09	764.2	33.3	0.7	63	Calm	0	0			10						Physical Observatory.
Vladivostock																			
Warsaw	29.71	754.5	30.15	765.7	36.5	2.6	82	NNW	16	7			10ks						Astronomical Obs.
Wilna	29.65	753.2	30.09	764.3	33.3	0.7	87	NW	4	2			10						Astronomical Obs.
Yeniseisk	29.87	758.7	30.20	767.1	—11.2	—24.0	81	Calm	0	0			0						Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.33	770.3	30.43	773.0	50.0	10	71	E	2.2	0.97			4k			0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.39	772.0	30.45	773.5	50.0	10.0	78	SE	1.9	0.86		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.39	695.8			41.0	5.0	69	W	1.9	0.85		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.12	714.3	30.46	773.6	41.4	5.2	54	E	3.0	1.33		0	0			0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.26	768.7	30.42	772.6	51.4	10.8	66	SW	2.1	0.94		4	4	NE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.47	748.4	30.38	771.7	52.7	11.5	73	E	0	0			0			0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.12	764.9	30.18	766.6	71.0	21.7	84	Calm	0	0		4cs;ck	3k	W	ENE	0	0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.86	758.5	29.92	759.9	79.3	26.3	89	NE	3.8	1.7			2s		E	0.799	20.3	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.1	30.38	771.7	54.3	12.4	69	Calm	0	0		0	8		NE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	76.6	24.8	72	E	19.3	8.20		3c	2k	E	E	0.039	1.00	Clear.	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.80	759.3	29.93	760.3	14.7	— 9.6	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.03	762.8	30.08	764.1	14.4	— 9.8	87	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	
Hernosand	30.07	763.7	30.12	765.0	30.2	— 1.0	84	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	30.05	763.3	30.23	767.8	34.5	1.4	69	WNW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	30.08	763.9	30.10	764.5	36.3	2.4	75	N	.....	.....	6	.....	0	.....	.....	0.075	1.9	.....	
Sub-Series.																			
Upsala	30.07	763.8	30.16	766.0	35.2	1.8	69	WNW	4.7	2.1	.....	.....	1	NNE	NNE	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	29.02	737.0	30.51	775.0	31.6	— 0.3	87	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered.	The Observatory.
Zurich	28.82	732.0	30.54	775.8	29 8	— 1.2	85	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +9.3 mm.; Thermometer, —1.7 Cent.; Relative Humidity, +7 per cent

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

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.25	768.4	41.5	5.3	62	N	7	3.0	.....	.....	4	.....	NNW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.34	770.7	49.1	9.5	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.85	758.3	64.0	12.2	60	S	.....	.....	1	.....	10n	.....	S	0.38	9.7	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	30.11	764.8	30.12	765.0	15.6	— 9.1	.....	NW	12	5.4	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.08	764.0	30.14	765.5	18.2	— 7.7	76	W	9	4.0	.....	0	0	.....	.....	0.03	0.8	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.97	761.2	30.02	762.5	22.2	— 5.4	67	NW	18	8.0	.....	0	3n	.....	.....	0.28	7.1	Clearing	H. J. Cundall, C. E
Cornwall, Ontario	30.33	770.4	30.54	775.7	19.1	— 7.2	78	W	.....	.....	1	1cs	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.97	761.2	30.15	765.8	13.0	—10.6	.....	W	6	2.7	.....	0	3krs	.....	.....	0.20	5.1	Cloudy?	H. A. Johnson.
Father Point, Quebec	30.35	770.9	30.37	771.4	9.3	—12.6	89	NW	35.0	15.6	.....	2k	8s	NW	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.12	765.0	30.19	766.8	22.5	— 5.3	62	NW	16	7.2	.....	0	0	.....	.....	0.28	7.1	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.89	733.8	29.75	755.6	26.5	— 3.1	94	W	26	11.6	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.35	745.5	30.52	775.2	30	— 1.1	.....	Calm	.....	.....	0	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	29.93	760.2	30.06	763.5	32.3	0.2	77	NW	15	6.7	.....	0	0	.....	.....	0.36	9.1	Clear	A. Allison.
Hamilton, Ontario	30.21	767.3	30.61	777.5	27.3	— 2.6	86	NE	.....	.....	1	10cs	0	.....	.....	0.09	2.3	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.28	769.1	30.64	778.2	27.8	— 2.3	85	N	7	3.1	.....	2c	0	.....	.....	0.23	5.8	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	22.6	— 5.2	79	NE	12	5.4	.....	8k	0	N	.....	0.30	7.6	Cloudy	C. H. Rigby.
Montreal, Quebec	30.30	769.6	30.51	774.9	24.7	— 4.1	50	NW	18	5.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	30.58	776.7	30.62	777.7	—15.5	—26.4	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. R. Nelson.
Norwood	29.79	756.7	30.56	776.2	13.3	—10.4	100	W	1	0.4	.....	2c	0	.....	.....	0.93	23.6	Foggy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.84	757.9	30.61	777.5	12.6	—10.8	90	E	5	2.2	.....	2cs	0	NE	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.79	756.7	30.59	777.0	32.7	0.4	85	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.80	756.9	30.53	775.4	30.0	— 1.1	80	NE	7	3.1	.....	10ck	0	SW	.....	0.23	5.8	Fair	H. Morgan.
Port Stanley, Ontario	29.81	757.2	30.49	774.4	32.2	0.1	79	E	8	3.6	.....	.....	10n	.....	.....	0.23	5.8	Cloudy	M. Payne.
Quebec, Quebec	30.08	764.0	30.43	772.9	17.5	— 8.1	76	N	.....	.....	5	0	0	.....	.....	0.22	5.6	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.02	762.5	30.20	767.1	30	— 1.1	63	N	12	5.4	.....	1k	0	.....	.....	0.21	5.3	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.79	756.7	30.56	776.2	22	— 5.6	90	E	4	1.8	.....	6cs	0	.....	.....	0	0	Cloudy	K. Stewart.
Stratford, Ontario	29.15	740.4	30.51	774.9	28.2	— 2.1	86	SE	4.5	2.0	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.80	756.9	29.84	757.9	30.6	— 0.8	72	NW	13	5.8	.....	.....	10s	.....	.....	0.17	4.3	Overcast	T. C. Hill, C. E.
Toronto, Ontario	30.17	766.3	30.58	776.7	26.8	— 2.9	89	N	1	0.4	.....	.....	10s	.....	.....	0.07	1.8	Cloudy	Magnetic Observatory
Windsor, N. S	30.21	767.3	30.31	769.9	31.0	— 0.6	89	N	19	8.5	.....	0	7ks	.....	.....	0	0	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.40	746.7	30.54	775.7	28.1	— 2.2	87	NE	12	5.4	.....	.....	10s	.....	W	0.14	3.6	Overcast	Prsfessor Wolverton.
Yarmouth, N. S	30.11	764.8	30.18	766.6	36.9	2.7	48	NW	14	6.3	.....	0	0	.....	.....	0.22	5.6	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.31	744.5	29.57	751.1	28	— 2.2	.....	W	.....	.....	.....	.....	10n	.....	.....	0.10	2.5	Snowing	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.61	752.1	19.4	— 7.0	.....	W	.....	.....	2	ck	n	.....	.....	.....	.....	Snowing	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.28	769.1	30.53	775.4	31	— 0.6	79	NW	8	3.6	.....	5c	0	W	.....	0.01	0.3	Fair	
Alpena, Michigan	29.83	757.7	30.54	775.7	16	— 8.9	83	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.17	740.9	30.33	770.4	56	13.3	87	SE	9	4.0	.....	10k	0	S	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.45	773.4	30.47	773.9	43	6.1	75	NE	16	7.2	.....	8k	0	NW	.....	Inap.	Inap.	Fair	
Augusta, Georgia	30.21	767.3	30.41	772.4	50	10.0	93	Calm	0	0	.....	0	5s;fg	.....	S;Calm	0	0	Fair	
Baltimore, Maryland	30.44	773.2	30.49	774.4	49	9.4	44	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.44	773.2	30.46	773.7	43	6.1	67	N	20	8.9	.....	0	5s	.....	Calm	0.03	0.8	Fair	
Bismarck, Dakota	27.86	707.6	29.72	754.9	20	— 6.7	85	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.68	728.5	29.99	761.7	58	14.4	100	SE	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.04	686.8	30.00	762.0	43	6.1	36	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.26	768.6	30.43	772.9	35	1.7	45	W	10	4.5	.....	2c	1s	W	Calm	Inap.	Inap.	Fair	
Brackettville, Texas	28.97	735.8	30.03	762.7	57	13.9	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.82	732.0	29.83	757.7	33	0.6	89	S	24	10.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.08	764.0	30.12	765.0	73	22.8	90	S	1	0.4	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Buffalo, New York	29.79	756.7	30.54	775.7	31	— 0.6	79	NE	6	2.7	.....	.....	10s	.....	Calm	0.58	14.7	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.20	767.1	30.51	774.9	30	— 1.1	36	N	8	3.6	.....	0	0	.....	.....	0.21	5.3	Clear.	
Cairo, Illinois	29.79	756.7	30.18	766.6	61	16.1	94	S	5	2.2	.....	.....	10n	.....	S	0.77	19.6	Light rain	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	58	14.4	82	W	6	2.7	.....	0	1ks	.....	Calm	0	0	Clear.	
Cape Henry, Virginia	30.37	771.4	30.39	771.9	49	9.4	93	NE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	57	13.9	94	W	4	1.8	.....	8c	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.42	772.7	30.45	773.4	47	8.3	41	NE	22	9.8	.....	.....	10s	.....	NE	0	0	Cloudy	
Castroville, Texas	29.34	745.2	30.04	763.0	62	16.7	.....	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.28	769.1	30.31	769.9	63	17.2	89	E	6	2.7	.....	0	9s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.32	770 1	30.38	771.6	58	14.4	88	NE	4	1.8	.....	0	8s	.....	NE	0	0	Cloudy	
Charlotte, North Carolina	29.62	749.8	30.35	770.9	50	10.0	93	SW	2	0.9	.....	5ek	Fog	SW	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.52	749.8	30.34	770.6	50	10.0	86	E	2	0.9	.....	5k	Sm'e	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	23.91	607.3	29.85	758.2	32	0.0	40	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.54	750.3	30.26	768.6	40	4.4	73	E	6	2.7	.....	5k	0	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.61	752.1	30.26	768.6	55	12.8	90	E	3	1.3	.....	.....	10n	.....	Calm	0.99	25.1	Light rain	
Cleveland, Ohio	29.07	753.6	30.43	772.9	35.5	1.9	80	NE	4	1.8	.....	.....	10s	.....	NE	0.31	7.9	Cloudy	
Coleman City, Texas	28.35	720.1	30.04	763.0	48	8.9	93	SW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.47	748.5	30.33	770.4	47	8.3	85	NE	7	3.1	.....	.....	10n	.....	NE	0.56	14.2	Light rain	
Concho, Texas	28.20	716.3	29.88	758.9	52	11.1	79	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.65	753.1	30.12	765.0	57	13.9	100	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Davenport, Iowa	29.50	749.3	30.16	766.1	36	2.2	80	E	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Dayton, Washington T'y	.....	.....	.....	.....	33	0.6	79	SW	.....	.....	2	.....	10s	.....	Calm	0.65	16.5	Cloudy	
Deadwood, Dakota	25.66	651.8	.....	.....	40	4.4	82	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.31	744.5	30.09	764.3	61	16.1	88	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Denver, Colorado	24.68	626.9	29.90	759.4	27	— 2.8	64	SW	4	1.8	.....	9ek	0	Calm	.....	0	0	Fair	
Des Moines, Iowa	29.17	740.9	30.07	763.8	41	5.0	91	Calm	0	0	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Detroit, Michigan	29.74	755.4	30.46	773.7	33	0.6	89	E	9	4.0	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Dodge City, Kansas	27.98	710.7	29.71	754.6	38	3.3	91	S	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dubuque, Iowa	29.46	748.3	30.19	766.8	36	2.2	90	E	2	0.9	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Duluth, Minnesota	29.42	747.3	30.12	765.0	32	0.0	85	NE	12	5.4	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.36	745.7	30.08	764.0	61	16.1	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.14	765.5	30.21	767.3	29	— 1.7	56	NW	13	5.8	.....	0	2s	.....	NW	0.21	5.3	Clear.	
Edinburg, Texas	.....	.....	.....	.....	71	21.7	95	Calm	.....	.....	0	.....	Fog	.....	.....	0.05	1.3	Foggy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.74	755.4	30.50	774 7	36	2.2	71	E	6	2.7	.....	8cs	0	Calm	.....	0.45	11.4	Fair	
Escanaba, Michigan	29.67	753.6	30.38	771.6	20	— 6.7	70	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Florence, Arizona	28.61	726.7	30.21	767.3	40	4.4	91	Calm	0	0	.....	2c	0	W	.....	0	0	Fair	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.57	700.3	29.46	748.3	20	— 6.7	84	S	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer, Montana	26.49	672.8	.....	.....	34	1.1	61	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	35	1.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.53	750.0	30.07	763.8	56	13.3	94	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Grant, Arizona	25.32	643.1	30.12	765 0	37	2.8	54	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.79	731.3	30.08	764.0	48	8.9	85	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Keogh, Montana	26.95	684.5	.....	.....	1	—17.2	71	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.85	707.4	29.79	756.7	51	10.6	100	SW	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.97	761.2	52	11.1	100	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	78	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.27	718.0	29.82	757.4	55	12.8	68	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.11	764.8	30.16	766.1	67	19.4	95	S	1	0.4	.....	0	Fog	.....	Calm	0.02	0.5	Light fog	
Graham, Texas	29.00	736.6	30.07	763.8	50	10.0	100	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Grand Haven, Michigan	29.66	753.4	30.34	770.6	37	2.8	63	E	8	3.6	.....	2cs	0	Calm	.....	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.13	739.9	30.08	764.0	49	9.4	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Indianapolis, Indiana	29.42	747.3	30.21	767.3	51	10.6	86	E	6	2.7	.....	.....	10n	.....	Calm	1.10	27.9	Light rain	
Indianola, Texas	30.14	765.5	30.16	766.1	68	20.0	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0.20	5.1	Foggy	
Jacksboro, Texas	28.98	736.1	30.12	765.0	50	10.0	86	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Jacksonville, Florida	30.32	770.1	30.34	770.6	62	16.7	88	NE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.46	748.3	30.09	764.3	41	5.0	91	E	6	2.7	.....	.....	Fog	.....	Calm	0.10	2.5	Dense fog	
Key West, Florida	30.18	766.6	30.22	767.6	71	21.7	75	NE	12	5.4	.....	8k	0	NE	.....	0	0	Cloudy	
Kittyhawk, North Carolina	30.36	771.1	30.39	771.9	55	12.8	87	NW	11	4.9	.....	0	5ks	.....	Calm	0	0	Fair	
Knoxville, Tennessee	29.34	745.2	30.38	771.6	47	8.3	96	E	1	0.4	.....	0	8s	.....	Calm	0	0	Fair	
La Crosse, Wisconsin	29.40	746.7	30.18	766.6	32	0.0	69	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	32	0.0	90	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Laredo, Texas	29.72	754.9	30.07	763.8	61	16.1	94	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.20	741.7	30.06	763.5	46	7.8	92	SE	1	0.4	.....	.....	Fog	.....	Calm	0.04	1.0	Dense fog	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.78	756.4	30.14	765.5	63	17.2	94	Calm	0	0	.....	.....	10n	.....	Calm	1.96	49.8	Light rain	
Los Angeles, California	29.78	756.4	30.13	765.3	43.0	6.1	87	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.63	752.6	30.18	766.6	59	15.0	88	E	4	1.8	.....	.....	10s;fg	.....	Calm	0.36	9.1	Cloudy	
Lynchburg, Virginia	29.67	753.6	30.37	771.4	52	11.1	86	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Madison, Wisconsin	29.19	741.4	30.22	767.6	37	2.8	81	E	12	5.4	.....	.....	Fog	.....	Calm	0	0	Light fog	
Marquette, Michigan	29.59	751.6	30.33	770.4	32	0.0	59	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Mason, Texas	28.50	723.9	30.27	768.8	54	12.2	93	S	6	2.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
Memphis, Tennessee	29.81	757.2	30.15	765.8	61	16.1	100	SE	11	4.9	.....	.....	10n	.....	Calm	1.37	34.8	Heavy rain	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.52	749.8	30.22	767.6	38	3.3	91	SE	7	3.1	.....	1cs	Haze	Calm	.....	0	0	Clear.	
Mobile, Alabama	30.24	768.1	30.29	769.4	63	17.2	100	SE	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	30.09	764.3	30.33	770.4	56	13.3	93	S	1	0.4	.....	8k	0	S	.....	0	0	Fair	
Morgantown, West Virginia	29.34	745.2	30.34	770.6	53	11.7	80	NE	4	1.8	.....	.....	10s	.....	Calm	0.71	18.0	Cloudy	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	3	—16.1	73	NW	72	32.2	.....	0	0	.....	.....	0	0	Clear.	
Nashville, Tennessee	29.73	755.1	30.37	768.8	59	15.0	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	30.38	771.6	30.51	774.9	39	3.9	64	NW	8	3.6	.....	5cs	Sm'e	W	Calm	0.03	0.8	Fair	
New London, Connecticut	30.42	772.7	30.48	774.2	39	3.9	73	W	1	0.4	.....	1cs	c	NW	.....	0.04	1.0	Clear.	
New Orleans, Louisiana	30.18	766.6	30.24	768.1	65	18.3	94	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.39	771.9	30.44	773.2	38	3.3	54	NW	4	1.8	.....	2c	0	Calm	.....	0	0	Clear.	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.30	769.6	30.48	774.2	45	7.2	60	NW	6	2.7	.....	.....	Haze	.....	Calm	Inap.	Inap.	Dense haze.	
Norfolk, Virginia	30.28	769.1	30.34	770.6	55	12.8	81	W	7	3.1	.....	8cs	Fog	Calm	Calm	0	0	Fair	
North Platte, Nebraska	27.01	686.0	29.60	751.8	38	3.3	91	SE	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	30.0	— 1.1	100	SW	1	0.4	.....	2cs	0	W	.....	1.49	37.8	Clear	
Omaha, Nebraska	28.85	732.8	29.96	761.0	43	6.1	92	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Oswego, New York	30.23	767.8	30.58	776.7	31	— 0.6	89	Calm	0	0	.....	1cs	0	Calm	.....	0.26	6.6	Clear.	
Pembina, Dakota	28.83	732.3	29.68	753.9	25	— 3.9	87	SE	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.29	769.4	30.32	770.1	62	16.7	94	E	4	1.8	.....	1ck	0	S	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.44	773.2	30.49	774.4	43	6.1	59	N	10	4.5	.....	0	2s	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.94	735.1	30.79	782.1	48	6.1	75	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.62	447.5	26.83	757.7	12	—11.1	42	W	62	27.7	.....	2cs	0	Calm	.....	0	0	Clear.	
Pilot Point, Texas	29.35	745.5	30.18	766.6	58	14.4	81	S	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	
Pioche, Nevada	.....	.....	.....	.....	32	0.0	69	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.56	750.8	30.40	772.1	44	6.7	76	E	4	1.8	.....	.....	10s	.....	E	0.15	3.8	Cloudy	
Port Huron, Michigan	29.76	755.9	30.48	774.2	31	— 0.6	89	NE	5	2.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Portland, Maine	30.23	767.8	30.28	769.1	35	1.7	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Portland, Oregon	29.80	756.9	29.88	758.9	37	2.8	86	SW	5	2.2	.....	2cs	5ks	Calm	SW	1.73	43.9	Cloudy.	
Portsmouth, North Carolina	.....	.....	.....	.....	55	12.8	94	SW	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear.	
Prescott, Arizona	24.83	630.7	30.19	766.8	31	— 0.6	89	S	.....	.....	1	1k	0	W	.....	0	0	Clear.	
Punta Rassa, Florida	30.25	768.3	30.27	768.8	66	18.9	74	NE	9	4.0	.....	10c	0	Calm	.....	0	0	Cloudy	
Red Bluff, California	29.88	758.9	30.26	768.6	42	5.6	91	S	5	2.2	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	
Rio Grande City, Texas	29.91	759.7	30.12	765.0	71	21.7	90	SE	.....	.....	1	0	8s	.....	SE	0	0	Fair	
Rochester, New York	29.89	759.2	30.55	776.0	33	0.6	79	W	3	1.3	.....	5c	0	W	.....	0.29	7.4	Fair	
Roseburg, Oregon	29.41	747.0	29.98	761.5	40.5	4.7	95	S	10	4.5	.....	.....	10n	.....	SW	0.73	18.5	Light rain	
Sacramento, California	30.18	766.6	30.26	768.6	42	5.6	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.57	751.1	30.15	765.8	50	10.0	100	N	3	1.3	.....	.....	Fog	.....	.....	1.80	45.7	Foggy	
St. Paul, Minnesota	29.19	741.4	30.05	763.3	32	0.0	79	SE	16	7.2	.....	.....	10ks	.....	SE	0	0	Cloudy	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	34	1.1	61	NW	4	1.8	.....	7k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.43	747.5	30.01	762.2	63	17.2	94	E	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.08	764.0	30.15	765.8	48	8.9	100	N	3	1.3	.....	.....	Fog	.....	NW	0	0	Foggy	
Sandusky, Ohio	29.73	755.1	30.43	772.9	30	3.9	82	E	15	6.7	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy.	
Sandy Hook, New Jersey	30.47	773.9	30.50	774.7	41	5.0	65	NE	12	5.4	.....	5c	1s	NW	N	0	0	Fair	
San Francisco, California	30.18	766.6	30.24	768.1	46	7.2	84	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.35	592.9	29.87	758.7	20	— 6.7	56	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.28	769.1	30.38	771.6	55	12.8	87	N	4	1.8	.....	8c	0	W	.....	0	0	Fair	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	66	18.9	95	S	2	0.9	.....	.....	10s	.....	Calm	1.68	42.7	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.36	771.1	30.39	771.9	57	13.9	93	W	4	1.8	.....	5chz	1ks	Calm	.....	0	0	Fair	
Socorro, New Mexico	25.53	648.4	29 60	751.8	27	— 2.8	94	Calm	0	0	.....	1cs	0	W	.....	0	0	Clear.	
Springfield, Illinois	29.49	749.0	30.17	766.3	48	8.9	85	E	7	3.1	.....	.....	Fog	.....	Calm	0.19	4.8	Dense fog.	
Springfield, Massachusetts	30.36	771.1	30.50	774.7	38	3.3	54	NW	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear.	
Stockton, Texas	27.08	687.8	30.08	764.0	44	6.7	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.35	770.9	30.40	772.1	38	3.3	81	W	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Toledo, Ohio	29.68	753.9	30.40	772.1	34	1.1	90	NE	16	7.2	.....	.....	10s	.....	NE	0.15	3.8	Cloudy	
Tucson, Arizona	27.66	702.6	30.21	767.3	42	5.6	83	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Umatilla, Oregon	29.51	749.5	30.02	762.5	34.0	1.1	79	W	10	4.5	.....	.....	10ks	.....	W	0.09	2.3	Cloudy	
Uvalde, Texas	29.21	741.9	30.03	762.7	59	15.0	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.95	760.7	30.21	767.3	66	18.9	95	S	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Virginia City, Montana	23.93	607.8	29.41	747.0	20	— 1.7	67	SW	15	6.7	.....	10cs	0	SW	.....	0	0	Cloudy	
Visalia, California	29.83	757.7	30.21	767.3	42	5.6	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C	30.34	770.6	30.46	773.7	49	9.4	64	NE	9	4.0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	89	NW	.....	.....	1	1c	0	W	.....	0	0	Clear.	
Wilmington, North Carolina	30.31	769.9	30.39	771.9	51	10.6	93	Calm	0	0	.....	5c	Fog	Calm	Calm	0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	36	2.2	61	SW	16	7.2	.....	0	7s	.....	SW	0	0	Fair	
Wood's Holl, Massachusetts	30.36	771.1	30.40	772.1	37	2.8	80	NW	10	4.5	.....	2c	0	NW	.....	0	0	Clear	
Yankton, Dakota	28.66	728.0	29.98	761.5	38	3.3	81	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Light fog	
Yuma, Arizona	29.95	760.7	30.11	764.8	44	6.7	76	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.10	764.5	30.15	765.8	74	23.3	72	Calm	0	0	.....	8cs	4ks	SE	NE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.19	766.8	30.20	767.1	76	24.4	83	Calm	0	0	.....	5c	2cs	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	78	25.6	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.92	760.0	29.92	760.0	79	26.1	91	NE	.....	.....	2	5k	6ks	E	.....	0.300	7.62	½ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.05	763.3	30.08	764.0	74	23.3	76	NE	13.2	5.9	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.06	763.5	30.11	764.8	—36.0	—37.8	.....	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,898 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,276 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.00 in., or 50.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.28‡	769.1‡			66	18.9	94	NE	1	0.4			0								Clear.	
Navy Yard, Portsmouth, N.H.	30.60‡	777.2‡			34	1.1	61	W	2	0.9			10								Threatening	
Naval Hospital, Yokohama, Japan	29.88‡	758.9‡			34.8	1.6	61	Calm			0		0			0	0				Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.26‡	768.6‡			48	8.9	85	S			1		10		SE						Cloudy	
Alaska, Arica, Peru *.	29.83‡	757.7‡			72	22.2	80	Calm			0		2								Hazy	
Colorado, New York, N. Y.	30.43‡	772.9‡			40	4.4	100	N	9	4.0			2			0	0				Hazy	
Constitution, Fort de France, Martinique	29.94‡	760.5‡			77	25.0	95	NE			3		5		NE						Pleasant	
Enterprise. Constantinople, Turkey	30.26‡	768.6‡			44	6.7	76	NW			3		4		WSW				Mod'ate		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.37‡	771.4‡			55	12.8	87	Calm	0	0			8			0	0				Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.24‡	768.1‡			43	6.1	92	SE	2.4	1.1			5?		SE	0	0				Overcast	
Kearsarge, Balize, British Honduras.	30.06‡	763.5‡			75	23.9	86	ENE			2–3		8		NE				Smooth		Cloudy	
Lackawana, Honolulu, Sandwich Id's†	30.09‡	764.3‡			74	23.3	69	NE			2–5		2		NE						Fair	
Marion, N. 15° 45′, W. 42° 42′	29.95‡	760.7‡			76	24.4	82	ENE			5		10		ENE	Light	Light		Mod'te	E	Cloudy	
Michigan, Erie, Pa.	30.46‡	773.7‡			35	1.7	80	E			1		10		E						Cloudy	
Monocacy, Shanghai, China	30.35‡	770.9‡			32	0.0	79	E			0–1		0								Clear	
New Hampshire, Port Royal, S. C.	30.35‡	770.9‡			59	15.0	100	NNW	4	1.8			4		NW	0	0				Clear	
Nipsic, N. 31° 19′, W. 71° 29′	30.36‡	771.1‡			72	22.2	76	SSE			2		2						Long	ESE	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡			68	20.0	90	Calm			0		10						Mod'ate	W	Cloudy	
Palos, Tientsin, China	30.29‡	769.4‡			28	— 2.2	100	NW			1		0								Clear	
Passaic, Washington, D. C.	30.42‡	772.7‡			50	10.0	79	NE			1		10								Cloudy	
Pensacola, Callao, Peru	29.87‡	758.7‡			68	20.0	90	SSW			0–1		10						Smooth		Overcast	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.47‡	773.9‡			42	5.6	58	N			2		2		N	0	0				Clear	
Quinnebaug, Villafranca, France	30.43‡	772.9‡			56	13.3	63	SW			1		8		S						Cloudy	
Ranger, Honolulu, Sandwich Id's.	30.08‡	764.0‡			73	22.8	76	ENE			4		2		E						Fair	
Richmond, Hong-Kong, China	30.11‡	764.8‡			63	17.2	72	SE			1		0						Smooth		Clear	
Rio Bravo, Brownsville, Texas †	30.21‡	767.3‡			69	20.6	??	SSE	2	0.9			0			0.07	1.8				Clear	
Santee. Annapolis, Md	30.46‡	773.7‡			46	7.8	69	NE			3		10		N;E						Sprinkling	
Shenandoah, Montivideo, Uruguay	29.63‡	752.6‡			66	18.9	74	W			2		8						Smooth		Fair	
St. Louis, League Island, Pa.	30.42‡	772.7‡			46	7.8	62	NE	4	1.8			8			0	0				Fair	
Tennessee, Brooklyn, N. Y.	30.49‡	774.4‡			41	5.0	65	NNE	3	1.3			3		Calm	0	0				D. clouds	
Trenton, Villafranca, France	30.46‡	773.7‡			64	17.8	48	W			2		3			0	0		Smooth		D. clouds	
Tuscarora, San José, Guatemala	29.87‡	758.7‡			76	24.4	91	NNE			1		5		Calm				Long	S	Fair	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.47‡	773.9‡			43	6.1	75	N			2		5		N						Fair	
Wabash, Boston, Mass.	30.36‡	771.1‡			35	1.7	90	W	9	4.0			0			0	0				Clear	
Wachusett, Montivideo, Uruguay. †	30.25‡	768.3‡			67	19.4	79	Calm			0		8		NE				Mod'ate	NW	Cloudy	
Wyoming, Villafranca, France	30.44‡	773.2‡			57	13.9	52	WSW			0–1		5		W				Smoot	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:30 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford Philadelphia, Pa. †		30.58†	776.7‡	41	5.0	74	N			2		2		W				Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Queenestown, Ireland		30.50‡	774.7‡	50	10.0		SSW			5		8		SSE	0			Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger																			
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson, N. 48° 46′, W. 30° 44′		30.00‡	762.0‡	42.3	5.7	95	SW			3	7ck	4k	W	SSE		High	NW	D. clouds	
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 42° 30′, W. 52° 40′		29.85‡	758.2‡	50.5	10.3	96	WNW			6		8		NW	2 h'rs	Long	sw;nw	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.48‡	772.9‡				W			4		10		W				Foggy	
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 29° 12′, E. 127° 35′		30.13‡	765.3‡	54	12.2		NW			4		ks		NW	Consid'ble	Mod'te	NNW	Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			E. LeLack.
S. S City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest.																			
S. 34° 07', E. 172° 39'		29 81†	757.2‡				S			6				SE		Rough	SE	Overcast	
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 16° 28', W. 31° 43'		29.84‡	757.9‡	80.5	26.9		ESE			5		2		ESE		Smooth	ESE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 6, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.40	772.1				W			1		0			0	0	Clear	
Nemours			30.42	772.7	59.7	15.4	87	WNW			1		4			0.059	1.5	Cloudy	Kesxuche.
Algiers			30.42	772.7	57.9	14.4	76	ENE			1		7			0	0	Very cloudy	Tourilliere.
La Calle			30.42	772.7	60.1	15.6	75	SW			1		4			0	0	Cloudy	Foufrede.
Tunis																			Jacques
Sfax																			Gau.
Saida			30.46	773.7															Herbin.
Tebessa			30.42	772.6															Watrin.
Geriville			30.44	773.2	48.6	9.2	50	NNE			2		9			0	0	Covered	Brugnlaux.
Laghouat								NW			1		2			0	0	Fair	Bertrand.
Biskra			30.45	773.5	51.1	10.6	46	S			1		4			0	0	Cloudy	Chanvaux.
			30.43	772.8	59.4	15.2	80	NW			1		7			0	0	Very cloudy	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.96	761.0	30.55	775.9	32.5	0.3	87	E			1		0			0	0		Prof. Ivan Stozir.
Eperies	29.75	755.6	30.56	776.3	33.6	0.9	92	WNW	5.4	2.4			9			0	0		Dr. Wierzbicki.
Gratz	29.49	749.1	30.12	772.7	34.7	1.5	78	NW			2		4cs			0	0		Julius Mikolik.
Hermannstadt	29.26	743.2	30.60	777.1	32.0	0.0	81	S			1		0			0	0		Andreas Rospini.
Kremsmünster	28.79	731.2	30.29	769.3	34.7	1.5	78	NNW			2		10			0.008	0.20	Snowing	Prof. A. Gottschling.
Lemberg	29.17	740.8	30.59	777.0	33.6	0.9	85	Calm			0		0			0	0		Prof. C. Wagner.
Pola	29.04	737.7	30.07	763.7	31.6	— 0.2	93	SW			1		10			0.059	1.5		Dr. T. Stanecki.
Szathmar	30.42	772.6	30.54	775.6	45.7	7.6	48	E			1		0			0	0		I.R.Hydrographic Office
Szegedin	29.91	759.7	30.41	772.3	35.6	2.0	91	W			2		8			0	0		Pet. Pancsics, S. J.
Trieste	30.16	766.1	30.46	773.6	38.5	3.6	77	Calm			0		4			0	0		Karl Stancel.
Vienna	30.47	773.9	30.57	776.6	31.0	1.1	100	Calm			0		10			0	0	Foggy	P. Busin.
	29.84	757.8			37.8	3.2		NNW			2					0	0		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.39	771.8	30.60	777.2	32.0	0.0	91	E			0	2	6		W	0	0	Light fog	Royal Observatory
Furnes	30.60	777.1	30.62	777.7	34.5	1.4	80	Calm			0		0			0	0	Light fog	M. E. de Cae.
Maeseyck	30.49	774.4	30.61	777.6	34.5	1.4	86	S			0		0			0	0		M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.29	769.4	30.40	772.1	44.4	6.9		WNW	4	1.8			10			Blank	Blank	Overcast	W. Boswell.
Ardrossan	30.38	771.6	30.40	772.1	47	8.3		SSW			4		8					Overcast	Wm. McNeil & G. Carrick
Armagh, (Observatory)	30.20	767.1	30.44	773.2	48.1	8.9		S	10	4.5			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.50	774.7	46.2	7.9		SE	7	3.1			9					Overcast	John Hartnup.
Bolton (Sharples)	29.96	761.0	30.40	774.4	40.9	4.9		S					10					Rain & fog	Thomas M. Ekereth.
Bradford, Yorkshire	30.09	764.3	30.49	774.4	45.5	7.5	85	SW			1		9			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.88	758.9	29.91	759.7	80	26.7		NE			1		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.49	774.4	30.59	777.0	34.6	1.1		S			1		10					Overcast	H. Todd.
Cardington			30.58	776.7	35.4	1.9		SW			0–1		10					Foggy	John McLaren.
Chatham (School M. E.)	30.49	774.4	30.62	777.7	36.2	2.3		S			1		10					Overcast	J. Carmell, Sapper, R.E.
Donaghadee	30.40	772.1	30.45	773.4	48	8.9		SSW			2		5					D. clouds	J. Mac Gowan.
Dover	30.56	776.2	30.59	777.0	38	3.3		ENE			1		9					Gloomy	J. Costello.
Falmouth (Observatory)	30.31	769.9	30.55	776.0	46.6	8.1		SSE			2		10					Overcast	The Staff.
Fort Napier, Natal	27.64	702.0	29.86	758.4	73.8	23.2		SE			2		10					Drizzling	Pvt. G. Salmon, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.31	769.9	49	9.4		S			2		8			0	0	Gloomy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Sergt. Wm. Allen, A. H.
Glasgow, (Observatory)	30.19	766.8	30.39	771.9	47.9	8.8		WSW			3		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.58	776.7	30.58	776.7	37	2.8		SW			2		8					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.43	772.9	30.61	777.5	35.5	1.9		SW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	30.32	770.1	30.56	776.2	36	2.2		ESE			1		10					Misty	Dr. S. E. Hoskins, F.R.S.
Helston	30.64	778.2	30.76	781.3	52	11.1		SE			4		10k			0.08	2.0	Misty	M. P. Moyle.
Holyhead	30.45	773.4	30.50	774.7	47	8.3		SSW			3		10					Misty	John Tilston.
Jersey	30.30	769.6	30.61	777.5	33.6	0.9		E			2		10					Misty	J. Fisher.
Kew (Observatory)	30.57	776.5	30.61	777.5	36.2	2.3		SSW	3	1.3			10					Threatening	The Met'g'l Office.
Leicester (Museum)	30.29	769.4	30.56	776.2	38.1	3.4		SW			2		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.24	768.1	30.31	769.9	58	14.4		NE			1		6k					D. clouds	A. King.
Nairn	30.29	769.4	30.39	771.9	43	6.1		Calm			0		10					Raining	W. D. Penny.
Nassau, Bahamas			30.22	767.6	73.5	23.1		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.36	771.1	30.56	776.2	40.5	4.7		SSW			2		10			0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.00	762.0	30.55	776.0	39.7	4.3		S			2		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.48	774.2	30.56	776.2	43.4	6.2		ESE			1		10					Overcast	John Merrifield.
*Roche's Point	30.39	771.9	30.49	774.4	50	10.6		SSW			4		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.35	770.9	30.52	775.2	46	7.8		SSE			2		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.38	771.6	43	6.1		W			2		8					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.07	763.8	30.14	765.5	40.2	4.6		NNW			3		9					Showery	Serg't W. H. Lyne.
Sheffield	30.25	768.3	30.54	775.7	46.1	7.8		SW			1		5			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.43	772.9	30.46	773.7	46.3	7.9	85	W			1		10			0.028	0.71	Overcast	Francis Redford, A. M.
Stonyhurst (Observatory)			30.51	774.9	42.2	5.7		S	0	0			10					Foggy	Rev. S. J. Perry.
Stratfield, Turgiss					35.5	1.9		SW			1		10					Gloomy	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.48	774.2	30.54	775.7	49	9.4		SE			4		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.40	772.1	30.42	772.7	50.8	10.4		SE	17	7.6			10					Drizzling	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.82	757.4	29.86	758.4	86.6	30.3	43	SW	6.8	3.0		0	1			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.40	645.2			88	31.1		SE				5k	5k						Robert Burnet.
Constable, Cape Colony	26.70	678.2			84	28.9		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.35	771	61.7	16.5		SE			Slight		Slight			0	0	Fine	Horace Witherell.
Leith (Restalrig Park) Sc'ti'd			30.41	772.4	50.8	10.4		W			1		10k			0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.73	755.1	29.92	760.0	78.5	25.8	67	SE	24.5	11.0		1	6		ESE	0.95	24.1	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	60.0	15.6	76	SE	3	1.3			2			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.36	771.1	48	8.9		SW			3		10			0.1	3.		
North Unst, Shetland Is			30.29	769.4				W			4	5	4	W		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia			29.02‡	737.1‡	55	12.8		NNE			2		6					D. clouds	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 48° 00′, W. 17° 05′			30.09	764.3	57	13.9		SSE			8		5			6	ESE; SSW	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 45° 54′, W. 119° 28′			29.85‡	758.2‡	51	10.6		N			6		10					Drizzling	Capt. W. M. Grieve.
Barque Commewyne, N. 26° 20′, W. 60° 10′			30.27‡	768.8‡	70.7	21.5		ENE			5		8					Showery	Capt. Jas. Buchan.
S. S. Ethiopia, N. 51° 00′ W. 37° 05′			29.07	738.4	43	6.1		WSW			6		5		WNW	6	WSW	D. clouds	Capt. Campbell.
Barque Fedalma, N. 38° 40′, W. 43° 35′			29.90	759.4	59	15.0		NW			7		8			6	NW	Showery	Capt. H. L. Fox.
S. S. German, S. 22° 11′, E. 6° 42′			29.91‡	759.7‡	70	21.1		SE			5		9					Overcast	Capt. O. D. Coxwell.
S. S. Strathleven, N. 12° 25′, E. 48° 00′			29.89‡	759.2‡	73.5	23.1		N			4		2					Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam, N. 49° 25′, W. 9° 40′			30.43	772.9	59	15.		SSE			5		8			3	SSE; WSW	D. clouds	Capt. C. M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.17	664.7	29.89	759.2	63.5	17.5	88	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.41	772.4	30.46	773.6	39.4	4.1	97	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Faröe	30.50	774.6	30.52	775.1	38.3	3.5	93	W	.....	.....	4	.....	7	.....	.....	.....	.....	.....	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.72	755.0	29.77	756.1	36.1	2.3	94	S	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	30.22	767.5	30.25	768.4	41.7	5.4	85	W	.....	.....	4	.....	6	.....	.....	.....	.....	.....	
Vestervig	30.28	769.1	30.30	771.9	38.6	3.6	98	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	

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

FRENCH SERIES.

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

Alençon, Normal School	30.16	766.0	30.59	777.0	32.7	0.4	96	E	.....	.....	1	.....	10	.....	.....	0	0.	Covered	Collignon, Director.
Amiens, Normal School	30.49	774.5	30.61	777.5	33.1	0.6	86	N	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.33	770.3	30.61	777.5	29.5	— 1.4	100	S	.....	.....	1	.....	.....	.....	.....	0	0	Light mist	Klein, Commandant.
Avignon, Normal School	30.43	773.0	30.51	775.0	42.8	6	61	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.00	762.0	30.60	777.2	30.9	— 0.6	92	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.33	770.3	30.61	777.6	33.8	1	93	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.63	752.7	30.60	777.2	29.8	— 1.2	.....	NE	.....	.....	1	.....	10	.....	NNE	0	0	Covered	A. Carré, Director.
Bordeaux	30.30	769.5	30.49	774.5	31.8	— 0.1	85	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.69	754.0	30.49	774.4	29.8	— 1.2	100	W	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.94	760.4	30.52	775.3	33.8	1	92	NNE	.....	.....	1	.....	10n	.....	SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.30	769.7	30.54	775.8	45.7	7.6	85	Calm	.....	.....	0	.....	9	.....	SSE	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.52	775.3	30.60	777.3	35.6	2	82	NE	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	M. Bletrin, Director.
Carcassonne, N. School	30.00	762.0	30.43	772.9	45.9	7.7	75	W	.....	.....	1	.....	1	.....	W	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch	30.29	769.4	30.63	778.1	31.8	— 0.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	30.12	765.0	30.73	780.5	31.3	— 0.4	82	E	.....	.....	3	.....	10	.....	.....	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.11	739.3	30.57	776.4	28.4	— 2.0	90	NW	.....	.....	1	.....	10	.....	.....	0	0	Light fog	Alluard, Director.
Commercy, Normal School	29.71	754.6	30.64	778.2	30.0	— 1.1	.....	E	.....	.....	1	.....	10n	E	E	0	0	Foggy	Dr. Coullet, Director.
Commune de Gréasque*	29.35	745.4	30.49	774.4	40.6	9.8	62	NE	.....	.....	1	.....	2	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.77	756.1	30.60	777.1	31.4	— 0.4	.....	SSW	.....	.....	1	.....	8kn	.....	.....	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.31	769.8	30.54	775.7	34.2	1.2	81	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Moullot, Director.
Le Mans, Normal School	30.26	768.6	30.59	777.0	32.0	0	97	ESE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.59	751.5	30.56	776.1	28.2	— 2.1	81	NE	.....	.....	2	.....	10	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.46	773.7	30.57	776.5	32.0	0.0	97	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.93	760.2	30.60	777.1	30.2	— 1.0	86	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.16	766.0	30.43	772.9	55.2	12.9	66	WSW	.....	.....	1	.....	2	.....	ESE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.41	746.9	30.52	775.3	29.1	— 1.6	92	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	25.11	637.7	30.42	772.7	39.6	4.2	47	WSW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.42	772.6	30.45	773.5	53.6	12.0	63	SE	.....	.....	1	.....	1	S	N	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.23	767.7	30.44	773.2	42.1	5.6	63	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.30	769.6	.....	.....	31.3	— 0.4	87	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.37	771.3	30.48	774.2	45.3	7.4	66	SE	8.8	1.7	.....	.....	0	.....	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.69	576.3	.....	.....	36.5	2.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.40	746.8	30.54	775.7	31.6	— 0.2	.....	N	.....	.....	1	.....	10	NE	NE	0	0	Covered	M. Tallieu
Puy de Dome (Summ') Obs	25.41	645.4	.....	.....	33.0	0.9	43	SSE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.48	774.3	30.62	775.1	36.7	2.6	86	N	.....	.....	1	.....	10	N	N	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.50	774.7	30.59	776.9	35.2	1.8	79	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.52	775.3	30.56	776.1	33.1	0.6	78	ESE	.....	.....	2	.....	10	E	E	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.43	772.8	30.59	777.0	31.5	— 0.3	88	E	.....	.....	1	.....	10	.....	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.36	745.6	30.48	774.2	41.0	5	84	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.78	756.5	30.52	775.1	37.9	3.3	95	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Julier Mercadier.
Tours	30.33	770.3	30.52	775.3	34.3	1.3	85	E	.....	.....	1	.....	10	.....	.....	0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.08	763.9	30.57	776.4	31.3	— 0.4	92	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.80	759.3	30.66	778.8	33.4	0.8	97	NNW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai	30.29	769.3	30.31	769.9	32.2	0.1	81	E	4.7	2.1	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:03 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.70	754.3	30.58	776.6	34.9	1.6	78	E			2		3cs;k	E		0	0		Prof. Dr. Hoh.
Berlin	30.42	772.7	30.60	777.3	37.9	3.3	75	SW			1		10			0	0		Prof. Dr. Arndt.
Breslau	30.04	763.0	30.58	776.8	33.4	0.8	83	NW			3		10			0	0		Royal University Obs'y.
Carlsruhe	30.13	765.4	30.59	777.0	34.0	1.1	66	E			2		10	NE		0	0		Albert Senz.
Cassel	30.00	762.0	30.62	777.7	36.9	2.7	75	SW			2		10			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.29	769.4	30.68	779.2	37.0	2.8	60	E			0		7			0	0		Physical Society.
Friedrichshafen	29.05	737.9	30.58	776.7	32.4	0.2	81	SW			1		8	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.34	770.5	30.41	772.3	35.8	2.1	94	WSW			1		10			Inap.	Inap.	Hazy	Dr. Reinhold Kleeman.
Kiel	30.54	775.7	30.56	776.1	38.8	3.8	96	SW			1		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.26	768.6	30.35	770.8	36.3	2.4	98	W			5		10			0.008	0.2		Prof. E. Luther.
Köslin			30.48	774.1	35.8	2.1		Calm			0		4			0.028	0.7		H. Müller.
Leipsic Observatory	30.21	767.4	30.66	778.7	35.8	2.1	73	WNW			1		10			0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.39	771.9	30.62	777.8	39.2	4.0	75	S			1		10ks			0	0		Dr. Assmann.
Memel	30.24	768.2	30.29	769.4	35.8	2.1	96	NW			4		10n						Reinbrecht & Issermann.
Munich (München)	28.65	727.8	30.55	775.9	33.1	0.6	72	N			2		0			0	0		Dr. C. Lang.
Neufahrwasser	30.37	771.5	30.39	771.9	36.5	2.5	87	WSW			4		10			0	0		A. Lothes.
Neustadt (Palatinate)	30.04	763.0	30.58	776.6	33.6	0.9	87	ENE			1		10	NE		0	0		Reallehrer Dicknether.
Posen	30.24	768.2	30.47	774.0	33.1	0.6	89	NW			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.04	763.1	30.64	778.2	29.5	— 1.4	92	Calm			0		10			0	0		Imp. University Observatory.
Stuttgart	29.60	751.8	30.60	777.2	33.3	0.7	83	N			1		4	N		0	0		Prof. Dr. Schoder.
Thorn	30.35	770.8	30.54	775.7	33.4	0.8	90	NW			3		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	29.02	737.1	30.63	778.0	36.5	2.5	70	E	2.2	1.0			1c			0	0		Reallehrer J. Hopfner
Wustrow	30.53	775.4	30.55	776.0	35.6	2.0	96	NNE			3		10s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.89	759.3	30.30	769.5	49.3	9.6		N			2.0		0					Clear.	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.93	760.2	29.98	761.5	73.2	22.9	15	N	4	1.8			0			0	0	Blue sky	
Deesa	29.51	749.6	30.00	761.9	77.1	25.1	35	NW	7.5	3.4			0			0	0	Blue sky	
Bombay	29.85	758.1	29.88	759.0	76.4	24.7	77	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.2	29.89	759.2	81.5	27.5	18	E	8	3.6			0			0	0	Blue sky	
Belgaum	27.35	694.6	29.87	758.7	79.3	26.3	45	NE	5	2.2			1	E	E	0	0	D. clouds	
Lahore	29.20	741.6	29.97	761.3	59.6	13.7	49	Calm	0.3	0.1			3			0	0	Blue sky	
Roorkee	28.97	735.8	29.89	759.3	65.8	18.8	33	SW	3.0	1.3			2			0	0	D. clouds	
Agra	29.38	746.3	29.96	761.0	69.7	20.9	49	W	6.0	2.7			0			0	0	Blue sky	
Nagpur	28.88	733.5	29.93	760.3	77.0	25.0	22	Calm	1.8	0.8			0			0	0	Blue sky	
Jubbulpore	28.57	725.7	29.90	761.7	62.6	17.0	39	N	1.1	0.5			0			0	0	Blue sky	
Lucknow	29.52	749.8	29.91	759.8	64.6	18.1	44	NW	0.6	0.3			0			0	0	Blue sky	
Allahabad	29.58	751.4	29.91	759.7	60.7	15.9	63	Calm	3.1	1.4			0			0	0	Blue sky	
Patna	29.71	754.6	29.90	759.4	67.0	19.4	52	N	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.83	706.8	29.91	759.8	59.6	15.3	52	WNW	6.1	2.7			0			0	0	Blue sky	
Cuttack	29.80	757.0	29.89	759.1	74.1	23.4	74	WNW	0.6	0.3			0			0	0	Blue sky	
Calcutta (Alipore)	29.85	758.3	29.88	758.8	66.3	19.1	73	WSW	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.46	748.3	29.86	758.5	65.3	18.5	67	NW	0.9	0.4			0			0	0	Blue sky	
Chittagong	29.79	756.6	29.88	759.0	68.3	20.2	65	NW	0.5	0.2			0			0	0		
Sibsagar	29.52	749.9	29.87	758.7	64.9	18.3	72	ENE	0.9	0.4			4			0	0	Blue sky	

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

ITALIAN SERIES.

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

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

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.13	765.2	30.56	776.2	41.0	5.0	49	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.01	762.2	30.56	776.1	35.2	1.8	87	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.45	773.5	30.57	776.5	29.3	— 1.5	98	S	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.59	751.5	30.53	775.5	29.8	— 1.2	80	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.28	769.2	30.48	774.3	52.5	11.4	46	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.58	724.7	30.53	775.4	37.8	3.2	53	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.50	774.7	30.55	776.0	33.6	0.9	92	NW	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.23	767.8	30.50	774.8	36.5	2.5	93	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.39	771.9	30.48	774.2	50.9	10.5	58	N	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.24	768.1	30.42	772.7	49.3	9.6	63	NNE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.09	764.2	30.35	770.9	49.5	9.7	45	NNE	16.8	7.5	.....	.....	2	.....	N	0	0	.....	Prof. C. De Giorgi
Cosenza	29.47	748.4	30.39	771.8	48.2	9 0	68	SE	9.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.18	766.6	30.36	771.1	56.1	13.4	55	N	.....	.....	2	.....	4	.....	NW	0	0	.....	Prof. A. Pacinotti.
Palermo	30.15	765.7	30.41	772 3	54.5	12.5	54	ENE	2.5	1.1	.....	.....	5	.....	NE	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.29	769.3	30.34	770 5	54.3	12.4	66	E	9.8	4.4	.....	.....	3	.....	E	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.88	758.9	30.42	772.7	49.3	9.6	59	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.16	766.0	30.18	766.6	32.2	0.1	81	NNE	0.6	0.2	.....	.....	4s	.....	.....	0	0	Fair...	K. Sasaki.
Nagasaki, I. M. Obs'y	30.03	762.7	30.25	768.3	35.8	2.1	83	N	1.3	0.6	.....	.....	2s	.....	.....	0.905	0.13	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.85	758.2	29.92	759.9	30.8	— 0.7	75	NNW	1.8	0.8	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.07	763.8	30.13	765.3	37.5	3.1	61	WNW	6.9	3.1	.....	ck	1ks	.....	.....	0	0	Fair...	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.12	638.1	30.30	769.6	44.6	7.0	57	E	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.53	623.0	30.20	767.0	52.2	11.2	86	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.71	754.6	29.98	761.4	61.0	16.1	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	F. Quijano, C. E.
Mexico, Central Observatory	23.15	588.0	30.32	770.2	45.0	7.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.08	611.7	.....	.....	58.5	14.7	66	N	.....	.....	4	2c	0	NE	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	24.04	610.5	30.15	765.8	51.4	10.8	81	NW	.....	.....	2	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.61	597.1	30.47	773.9	42.8	6.0	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.32	617.6	30.40	774.4	45.1	7.3	64	E	.....	.....	1	3	2	W	E	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.07	763.8	30.08	764.1	70.9	21.6	95	W	.....	.....	1	2	5	N	NE	1.48	36.2	Rainy	Prof. M. M. Cházaro.
Vera-Cruz	30.10	764.5	30.13	765.2	75.2	24.0	83	N	15.9	7.1	.....	9k	0	.....	.....	Inap.	Inap.	Cloudy.	Prof. J. Rossell
Zacatecas	22.57	573.3	30.30	769.7	48.6	9.2	87	NE	.....	.....	3	.....	3ks	.....	NE	0	0	Foggy	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.63	777.9	30.63	777.9	35.2	1.8	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.54	775.8	30.60	777.2	36.0	2.2	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.61	777.4	30.61	777.4	36.9	2.7	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.62	777.7	30.62	777.7	34.3	1.3	80	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.58	776.8	30.63	778.0	34.7	1.5	74	SSE	.....	.....	2	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.19	766.9	30.25	768.3	44.2	6.8	94	WNW	4.5	2.0			8			0.189	4.8		
Brönö	29.88	759.0	29.92	760.0	41.0	5.0	66	SW	9	4			9			0.087	2.2		
Christiana	30.02	762.6	30.18	766.6	27.0	— 2.8	100	Calm	0	0			10			0	0	Foggy	
Tromsö	29.50	749.2	29.54	750.3	36.1	2.3	77	SW	9	4			10			0.425	10.8		

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.40	746.7	30.44	773.1	45.3	7.4	69	ENE	1.3	0.6			0			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.26	768.5	30.35	770.8	61.0	16.1	79	Calm	0	0			9			0.118	3.0	Raining	Capt. D. A. de Cunha.
Lisbon Observatory	30.08	764.0	30.46	773.6	45.5	7.5	73	NNE	8.7	3.9			0			0	0		The Staff.
Ponta Delgada (Azores)	30.10	764.5	30.17	766.3	60.8	16.0	52	W	10.5	4.7			4			0.339	8.6		

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

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. [illegible] Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.				
Porto Praya, Cape Verd Ids.			D. clouds	T. Pereira, 2nd Lieut.
Sà da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello,				
St. Paul de Loando, Gulf of Guinea.			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	1	N	D. clouds	J. G. Felgo, 2nd Lieut.

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.96	761.0	29.98	761.5	11.8	—11.2	97	S	4	2			10						Capt. Sseliwerstow.
Astrakhan	30.22	767.5	30.13	765.4	23.5	— 4.7	95	Calm	0	0		10cp						Heavy clouds	Capt. Wisganow.
Barnaul	30.04	763.1	30.62	777.7	— 6.7	—21.5	97	SW	0	0			4					Light clouds	Meteorological Obs.
Dorpat	29.97	761.3	30.23	767.9	21.4	— 5.9	93	WSW	4	2		4ck							Prof. Dr. Weihrauch.
Ekaterinburg	29.19	741.3	30.25	768.3	7.0	—13.9	95	S	4	2			10						Meteorological Obs.
Irkutsk																			
Kasan	29.80	757.0	30.10	764.5	13.8	—10.1	95	SSE	2	1			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.43	747.6	30.11	764.8	27.3	— 2.6	97	N	11	5		10ksn						Light snow.	Physical Cabinet.
Krotkowo*	29.65	753.2	30.17	766.4	7.9	—13.4	79	S	0	0			10						Cand. Fatjanow.
Lugan	29.78	756.5	30.00	762.1	22.8	— 5.1	83	SSW	2	1			9			Blank	Blank	Light clouds	Meteorological Obs.
Moscow	29.49	749.0	30.08	763.9	20.5	— 6.4	79	N	7.8	3.5			10s						Meteorological Obs.
Nertchinsk	27.89	708.4	30.63	777.9	—28.8	—33.8	77	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.05	763.2	30.12	765.0	28.4	— 2.0	88	N	13	6			10n						Kurdakof.
Nukuss	29.85	758.1	30.10	764.4	26.6	— 3.0	76	Calm	0	0			2ks						
Orenberg																			
Pekin (China)	30.14	765.5	30.28	769.1	20.7	— 6.3	58	Calm	0	0			0						Physical Observatory.
St. Petersburg	30.13	765.4	30.15	765.8	13.5	—10.3	97	WNW	4	2			3ks;cs						Central Physical Obs.
Tashkend	28.52	724.5	30.17	766.4	34.2	1.2	85						0						Teich, A. M.
Tiflis	28.65	727.7	30.13	765.3	35.1	1.7	57	NW	13	6		7c							Physical Observatory.
Vladivostock																			
Warsaw	30.00	762.1	30.45	773.5	30.0	— 1.1	92	WNW	18	8			10ks						Astronomical Obs.
Wilna	29.85	758.3	30.30	769.5	32.9	0.5	87	Calm	0	0			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.23	767.7	30.56	776.3	—18.0	—27.8	79	Calm	0	0			0						Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.34	770.7	30.45	773.4	48.9	9.4	53	ESE	25.6	11.4			0			0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.41	772.5	30.47	774.0	49.3	9.6	73	SE	1.0	0.46		3	2	NE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.39	695.7			39.6	4.2	65	N	2.3	1.02		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.17	715.5	30.52	775.2	36.1	2.3	90	SE	2.2	1.00		0	10			0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.28	769.2	30.44	773.1	58.6	14.8	64	SW	2.2	0.97		0	3			0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.46	748.2	30.37	771.5	51.8	11.0	63	S	0	0		0	0			0	0	Clear.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.10	764.5	30.18	766.2	70.0	21.1	91	E	4.0	1.8		0	1k		E	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.80	756.9	29.86	758.3	79.2	26.2	86	E	2.7	1.2			1s		E	0.016	0.4	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.30	769.7	30.41	772.3	57.9	14.4	59	N	2.4	1.1		0	5		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.02	762.4	30.11	764.7	75.9	24.4	80	E	9.3	4.16		4k	3kn	E	E	0.157	4.00	Cloudy	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.4	29.74	755.4	31.6	— 0.2	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.88	758.9	29.93	760.2	33.8	1.0	89	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.95	760.8	30.00	762.1	32.7	0.4	90	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.93	760.2	30.11	764.7	37.9	2.8	86	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.07	763.8	30.13	765.3	37.8	3.2	93	W	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.98	761.4	30.07	763.6	33.8	1.0	81	WSW	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	29.08	738.7	30.59	776.9	29.7	— 1.3	88	E	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.86	733.1	30.60	777.1	27.7	— 2.4	80	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +11.0 mm.; Thermometer, —2.7 Cent.; Relative Humidity, +8 per cent
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.19	766.9	40.5	4.7	78	NW	9	4.0	.....	.....	8	.....	NW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.28	769.2	43.0	6.1	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.10	764.4	53.2	11.8	59	WNW	.....	.....	1	.....	6n	.....	SW	0.19	4.8	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	30.65	778.5	30.66	778.7	—10.5	—23.6	.....	W	3	1.3	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.70	779.8	30.78	781.8	—17.3	—27.4	93	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.66	778.7	30.71	780.0	3.2	—16.0	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	30.04	763.0	30.26	768.6	10.1	— 12.2	93	W	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.53	775.4	30.73	780.5	—10.0	—23.3	.....	W	2	0.9	.....	0	1s?	.....	.....	0	0	Cloudy?	H. A. Johnson.
Father Point, Quebec	30.48	774.2	30.50	774.7	— 5.5	—20.8	100	Calm	0	0	.....	7k	0	.....	.....	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.70	779.8	30.77	781.5	—19.9	—28.8	100	Calm	0	0	.....	.....	Haze	.....	.....	0	0	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.44	747.8	30.41	772.4	—17.0	—27.2	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.90	734.0	30.02	762.5	40	4.4	.....	SE	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	James Grant.
Halifax, N. S	30.03	778.0	30.78	781.8	8.2	—13.2	96	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	A. Allison.
Hamilton, Ontario	29.76	755.9	30.15	765.8	34.7	1.5	95	W	.....	.....	1	.....	10n	.....	.....	0.28	7.1	Misty.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.88	758.9	30.23	767.8	31.8	— 0.1	97	S	13	5.8	.....	.....	10n	.....	.....	0.07	1.8	Light rain...	S. Woods, M. A.
Little Glace Bay, N. S	30.65	778.5	30.69	779.5	18.4	— 7.6	92	W	4	1.8	.....	4k	0	N	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	30.11	764.8	30.33	770.4	7.9	—13.4	85	SE	18	8.0	.....	.....	10n	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.56	750.8	29.59	751.6	29.0	— 1.7	92	SW	.....	.....	4	.....	10	.....	.....	0.10	2.5	Cloudy.....	J. R. Nesson.
Norwood	29.38	746.2	30.10	764.5	34.0	1.1	85	SE	11	4.9	.....	.....	10s	.....	.....	.....	.....	Light rain...	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.28	743.7	30.00	762.0	32.0	0.0	100	E	14	6.3	.....	.....	10n	.....	E	0.07	0.3	Light rain...	Rev. R. Mosley.
Peterboro, Ontario	29.33	745.0	30.10	764.5	35.7	2.1	99	Calm	.....	.....	0	.....	10n	.....	.....	Inap.	Inap.	Rain & fog..	J. F. Jeffers, M. A.
Port Dover, Ontario	29.38	746.2	30.09	764.3	38.0	3.3	100	SW	13	5.8	.....	.....	10n	.....	.....	0.16	4.1	Threatening	H. Morgan.
Port Stanley, Ontario	29.40	746.7	30.06	763.5	40.1	4.5	97	S	5	2.2	.....	.....	Fog	.....	.....	0.15	3.8	Light rain...	M. Payne.
Quebec, Quebec	30.12	765.0	30.48	774.2	8.0	—13.3	67	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.55	776.0	30.74	780.8	5	—15.0	100	N	2	0.9	.....	.....	10ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.25	742.9	29.98	761.5	38	3.3	91	S	16	7.2	.....	.....	10s	.....	.....	0	0	Overcast....	K. Stewart.
Stratford, Ontario	28.71	729.2	30.02	762.5	38.2	3.4	93	SW	6.5	2.9	.....	.....	Fog	.....	.....	0.08	2.0	Foggy	C. J. MacGregor, M. A.
Sydney, C. B	30.67	779.0	30.72	780.3	— 1.0	—18.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.70	754.4	30.09	764.3	36.9	2.7	99	SE	8	3.6	.....	.....	Fog	.....	.....	0.10	2.5	Rain & fog..	Magnetic Observatory
Windsor, N. S	30.66	778.7	30.77	781.5	14.0	—10.0	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	Prof. John E. Oram, M. A
Woodstock, Ontario	28.95	735.3	30.05	763.3	40.3	4.6	98	SE	21	9.4	.....	.....	10s	.....	.....	0.12	3.0	Overcast....	Prsfessor Wolverton.
Yarmouth, N. S	30.66	778.7	30.74	780.8	12.9	—10.6	89	E	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.20	767.1	30.47	773.9	12	—11.1	.....	NW	.....	.....	.....	0	5s	.....	.....	Inap.	Inap.	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.47	773.9	24.8	— 4.0	.....	N	.....	.....	3	cs	.....	.....	.....	0	0	Fair...	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	30.26	768.6	30.51	774.9	29	— 1.7	89	S	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Alpena, Michigan	29.26	743.2	29.92	760.0	35	1.7	90	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.14	740.1	30.29	769.4	58	14.4	76	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.42	772.7	30.44	773.2	43	6.1	100	NE	7	3.1	.....	.....	10n	.....	Calm	0.19	4.8	Light rain	
Augusta, Georgia	30.19	766.8	30.40	772.1	55	12.8	87	Calm	0	0	.....	0	5s;fog	.....	sw;Calm	0	0	Fair	
Baltimore, Maryland	30.40	772.1	30.45	773.4	39	3.9	91	E	5	2.2	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Barnegat, New Jersey	30.42	772.7	30.44	773.2	43	6.1	100	E	18	8.0	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Bismarck, Dakota	28.43	722.1	30.29	769.4	—13	—25.0	100	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.70	729.0	29.99	761.7	64	17.8	100	SW	1	0.4	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Boise City, Idaho	27.00	685.8	29.96	761.0	43	6.1	59	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.47	773.9	30.64	778.2	32	0.0	79	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Brackettville, Texas	28.99	736.3	30.04	763 0	61	16.1	94	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.27	743.4	30.42	772.7	— 9	—22.8	100	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.09	764.3	30.14	765.5	68	20.0	90	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	29.37	746.0	30.08	764.0	43	6.1	75	S	14	6.3	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	30.13	765.3	30.44	773.2	28	— 2.2	88	S	15	6.7	.....	5ck	5ks	W	SW	0	0	Cloudy	
Cairo, Illinois	29.73	755.1	30.12	765.0	61	16.1	94	Calm	0	0	.....	.....	Fog	.....	.....	0.11	2.8	Foggy	
Campo, California																			
Cape Hatteras, N. Carolina	30.37	771.4	30.37	771.4	53	11.7	93	NE	1	0.4	.....	10cs	0	SW	.....	0	0	Cloudy	
Cape Henry, Virginia	30.37	771 4	30.39	771.9	50	10.0	100	NW	7	3.1	.....	.....	10s	.....	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.38	771.6	30.40	772.1	53	11.7	100	N	6	2.7	.....	.....	Fog	.....	Calm	0.05	1.3	Dense fog	
Cape May, New Jersey	30.38	771.6	30.41	772.4	48	8.9	85	NE	16	7.2	.....	.....	10s	.....	NE	0.04	1.0	Cloudy	
Castroville, Texas	29.36	745.7	30.06	763.5	67	19.4	.....	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.29	769.4	30.31	769.9	64	17.8	94	E	7	3.1	.....	0	2s	.....	E	0	0	Fair	
Charleston, South Carolina	30.29	769.4	30.35	770.9	58	14.4	94	NE	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Charlotte, North Carolina	29.52	749.8	30.36	771.1	48	8.9	93	NE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Chattanooga, Tennessee	29.46	748.3	30.27	768.8	58	14.4	94	E	5	2.2	.....	.....	10s	.....	SW	0.44	11.2	Cloudy	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	24	— 4.4	48	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.28	743.7	29.96	761.0	50	10.0	86	Calm	0	0	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Cincinnati, Ohio	29.43	747.5	30.07	763.8	61	16.1	91	SW	7	3.1	.....	0	5ks	.....	W	0.42	10.7	Fair	
Cleveland, Ohio	29.31	744.5	30.02	762.7	52	11.1	93	SE	10	4.5	.....	.....	10n	.....	SE	0.08	2.0	Light rain	
Coleman City, Texas	28.33	719.6	30.02	762.5	50	10.0	86	SW	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.20	741.7	30.02	762.5	57	13.9	94	S	8	3.6	.....	.....	10ks	.....	S	1.80	45.7	Cloudy	
Concho, Texas	28.24	717.3	29.92	760.0	55	12.8	87	SW	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.64	752.8	30.10	764.5	67	19.4	89	S	8	3.6	.....	0	8s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.36	745.7	30.00	762.0	50	10.0	93	W	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	49	9.4	44	S	.....	.....	4	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Deadwood, Dakota	25.39	644.9	.....	.....	19	— 7.2	54	Calm	0	0	.....	0	2s	.....	W	0	0	Fair	
Decatur, Texas	28.94	735.1	30.11	764.8	58	14.4	64	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.26	743.2	30.04	763.0	62	16.7	88	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Denver, Colorado	24.81	630.2	30.03	762.7	27	— 2.8	64	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.16	740.7	30.07	763.8	36	2.2	90	NW	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Detroit, Michigan	29.34	745.2	30.01	762.2	42	5.6	100	S	1	0.4	.....	.....	10n;fog	.....	Calm	0.19	4.8	Light rain	
Dodge City, Kansas	27.45	697.2	29.85	758.2	29	— 1.7	78	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.37	746.0	30.08	764.0	44	6.7	92	W	6	2.7	.....	.....	10ks	.....	NW	0.03	0.8	Cloudy	
Duluth, Minnesota	29.35	745.5	30.05	763.3	29	— 1.7	78	W	16	7.2	.....	0	0	.....	.....	0.12	3.0	Clear	
Eagle Pass, Texas	29.39	746.5	30.11	764.8	64	17.8	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.61	777.5	30.69	779.5	18	— 7.8	68	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	72	22.2	85	S	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.36	745.7	30.09	764.3	44	6.7	84	S	24	10.7	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Escanaba, Michigan	29.30	744.2	29.97	761.2	38	3.3	81	NW	6	2.7	.....	.....	10s	.....	NW	0.17	4.3	Cloudy	
Florence, Arizona	28.57	725.7	30.17	766.3	45	7.2	84	N	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.13	714.5	30.26	768.6	—15	—26.1	71	SE	4	1.8	.....	8c	0	Calm	.....	0	0	Cloudy	
Fort Custer, Montana	26.71	678.4	.....	.....	1	—17.2	72	NW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Fort Davis, Texas	25.30	642.6	30.26	768.6	35	1.7	80	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.98	761.5	61	16.1	88	S	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	47	8.3	56	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Griffin, Texas	28.82	732.0	30.10	764.5	54	12.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.32	693.9	.....	.....	— 6	—21.1	61	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.90	708.6	29.82	757.4	55	12.8	93	W	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.95	760.7	42	5.6	83	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota											1								
Fort Verde, Arizona	.....	.....	.....	.....	34	1.1	90	S	.....	.....	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.27	718.0	29.79	756.7	65	18.3	94	S	4	1.8	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.16	766.1	30.20	767.1	68	20.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
Graham, Texas	29.00	736.6	30.06	763.5	51	10.6	93	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.97	761.2	46	7.8	92	SW	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Helena, Montana																			
Henrietta, Texas	29.10	739.1	30.04	763.0	51	10.6	93	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.24	742.7	30.00	762.0	60	15.6	94	SW	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Indianola, Texas	30.17	766 3	30.20	767.1	68	20.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Jacksboro, Texas	28.95	735.3	30.09	764.3	55	12.8	68	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.32	770.1	30.34	770.6	65	18.3	84	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Keokuk, Iowa	29.36	745.7	29.97	761.2	52	11.1	93	W	5	2.2	.....	.....	Fog	.....	Calm	0.04	1.0	Dense fog	
Key West, Florida	30.17	766.3	30.20	767.1	72	22.2	85	E	12	5.4	.....	5k	0	E	.....	0.03	0.8	Fair	
Kittyhawk, North Carolina	30.37	771.4	30.34	770.6	51	10.6	93	NE	6	2.7	.....	8cs	Fog	W	NE	0	0	Fair	
Knoxville, Tennessee	29.28	743.7	30.29	769.4	56	13.3	94	SW	2	0.9	.....	.....	10ks	.....	SW	0.20	5.1	Cloudy	
La Crosse, Wisconsin	29.28	743.7	30.02	762.5	43	6.1	67	N	1	0.4	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
La Mesilla, New Mexico	26.22	666.0	30.37	771.4	35	1.7	80	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.74	755.4	30.08	764.0	67	19.4	89	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.18	741.1	30.03	762.7	46	7.8	92	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Lewiston, Idaho																			
Little Rock, Arkansas	29.77	756.1	30.12	765.0	67	19.4	95	SW	4	1.8	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Los Angeles, California	29.74	755.4	30.08	764.0	46.5	8.1	73	N	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Louisville, Kentucky	29.54	750.3	30.09	764.3	61	16.1	88	SW	8	3.6	.....	2k	2s	SW	Calm	0.44	11.2	Fair	
Lynchburg, Virginia	29.74	755.4	30.45	773.4	42	5.6	91	NE	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Madison, Wisconsin	28.98	736.1	29.97	761.2	44	6.7	92	W	7	3.1	.....	.....	Fog	.....	Calm	0.06	1.5	Dense fog	
Marquette, Michigan	29.18	741.1	29.88	758.9	42	5.6	74	NW	4	1.8	.....	0	5ks	.....	NW	0.13	3.3	Fair	
Mason, Texas	28.50	723.9	30.26	768.6	60	15.6	94	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.77	756.1	30.11	764.8	65	18.3	94	SW	12	5.4	.....	.....	10s	.....	S	1.73	42.9	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.23	742.4	29.96	761.0	47	8.3	92	W	10	4.5	.....	0	5s;fog	.....	W	Inap.	Inap.	Fair	
Mobile, Alabama	30.24	768.1	30.29	769.4	61	16.1	100	S	1	0.4	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	30.07	763.8	30.31	769.9	60	15.6	88	S	2	0.9	.....	8k	0	SW	.....	0	0	Fair	
Morgantown, West Virginia	29.17	740.9	30.16	766.1	56	13.3	81	S	4	1.8	.....	.....	10a	.....	Calm	1.08	27.4	Cloudy	
Mt. Washington, N. H.	23.88	606.5	30.24	768.1	16	— 8.9	83	SW	60	26.8	.....	8c	8ks	SW	SW	0	0	Fair	
Nashville, Tennessee	29.66	753.4	30.19	766.8	63	17.2	94	Calm	0	0	.....	.....	10n	.....	Calm	0.43	10.9	Light rain	
New Haven, Connecticut	30.44	773.2	30.56	776.2	34	1.1	79	NE	11	4.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
New London, Connecticut	30.33	775.4	30.59	777.0	36	2.2	80	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Threatening	
New Orleans, Louisiana	30.20	767.1	30.26	768.6	66	18.9	90	SE	4	1.8	.....	0	Fog;sm	.....	SE	0	0	Clear	
Newport, Rhode Island	30.54	775.7	30.60	777.2	37	2.8	81	E	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.33	770.4	30.52	775.2	39	3.9	81	NE	12	5.4	.....	.....	10n;fg	.....	Calm	0.06	1.5	Light rain	
Norfolk, Virginia	30.34	770.6	30.40	772.1	49	9.4	78	NW	5	2.2	.....	.....	Sm'e	.....	Calm	0	0	Smoky	
North Platte, Nebraska	27.17	690.1	29.87	758.7	27	— 2.8	76	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.28	743.7	29.32	744.7	30.0	3.9	96	S	8	3.6	.....	.....	10n	.....	Calm	1.14	29.0	Light rain	
Omaha, Nebraska	28.93	734.8	30.06	763.5	35	1.7	80	N	15	6.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Oswego, New York	29.91	759.7	30.25	768.3	37	2.8	81	S	18	8.0	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Pembina, Dakota	29.40	746.7	30.38	771.6	—19	—28.3	100	NW	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Pensacola, Florida	30.30	769.6	30.33	770.4	62	16.7	100	E	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Philadelphia, Pennsylvania	30.39	771.9	30.45	773.4	37	2.8	100	NE	12	5.4	.....	.....	10n;fg	.....	Calm	0.23	5.8	Light rain	
Phœnix, Arizona	28.92	734.6	30.78	781.8	46	7.8	84	E	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	17.75	450.8	29.96	761.0	11	—11.7	20	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.31	744.5	30.13	765.3	59	15.0	82	S	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	.....	.....	.....	.....	29	— 1.7	67	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.34	745.2	30.17	766.3	46	7.8	92	SE	4	1.8	.....	.....	10n;fg	.....	SE;Calm	0.36	9.1	Light rain	
Port Huron, Michigan	29.32	744.7	29.99	761.7	43	6.1	100	S	10	4.5	.....	.....	Fog	.....	Calm	0.10	2.5	Foggy	
Portland, Maine	30.01	777.5	30.07	779.0	19	— 7.2	69	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.42	747.3	29.49	749.0	47	8.3	89	S	24	10.7	.....	.....	10n	.....	.....	1.77	45.0	Heavy rain	
Portsmouth, North Carolina	.....	.....	.....	.....	55	12.8	100	N	10	4.5	.....	8k	0	SW	.....	0	0	Fair	
Prescott, Arizona	24.85	631.2	30.21	767.3	32	0.0	69	S	.....	.....	1	5k	0	Calm	.....	0	0	Fair	
Punta Rassa, Florida	30.24	768.1	30.26	768.6	65	18.3	94	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.78	756.4	30.15	765.8	41	5.0	91	S	15	6.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Rio Grande City, Texas	29.96	761.0	30.17	766.3	70	21.1	85	SE	.....	.....	2	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.50	749.3	30.13	765.3	39	3.9	82	SE	12	5.4	.....	.....	10s	.....	SE	0.10	2.5	Cloudy	
Roseburg, Oregon	29.14	740.1	29.70	754.4	50.5	10.3	76	S	7	3.1	.....	.....	10s	.....	SW	0.83	21.1	Threatening	
Sacramento, California	30.08	764.0	30.16	766.1	38	3.3	91	SE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.49	749.0	30.06	763.5	55	12.8	100	S	7	3.1	.....	0	2ks;sm	.....	W	0.04	1.0	Fair	
St. Paul, Minnesota	29.23	742.4	30.08	764.0	33	0.6	79	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Salt Lake City, Utah	25.06	651.8	29.99	761.7	34	1.1	52	SE	11	4.9	.....	7c	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29.47	748.5	30.05	763.3	66	18.9	80	SE	3	1.3	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	
San Diego, California	30.03	762.7	30.10	764.5	49	9.4	93	N	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Sandusky, Ohio	29.38	746.0	30.05	762.0	55	12.8	93	S	5	2.2	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Sandy Hook, New Jersey	30.45	773.4	30.49	774.4	41	5.0	91	E	26	11.6	.....	.....	10n	.....	E	0.07	1.8	Light rain	
San Francisco, California	30.08	764.0	30.15	765.8	44	6.7	92	NW	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.6	20	— 6.7	56	NE	6	2.7	.....	0	1s	.....	NE	0	0	Clear	
Savannah, Georgia	30.27	768.8	30.36	771.1	59	15.0	94	Calm	0	0	.....	5ck	0	SW	.....	0	0	Fair	
Shreveport, Louisiana	29.93	760.2	30.14	765.5	68	20.0	95	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.37	770.9	30.38	771.6	57	13.9	100	NW	2	0.9	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Socorro, New Mexico	25.59	650.0	29.65	753.1	29	— 1.7	56	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.38	746.2	30.04	763.0	56	13.3	94	SW	7	3.1	.....	.....	Fog	.....	Calm	0.03	0.8	Dense fog	
Springfield, Massachusetts	30.46	773.7	30.60	777.2	28	— 2.2	88	NE	4	1.8	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow	
Stockton, Texas	7.10	688.3	30.10	764.5	40	4.4	25	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.57	776.5	30.63	778.0	37	2.8	100	SE	17	7.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	29.29	744.0	29.98	761.5	45	7.2	100	NE	2	0.9	.....	.....	10n;fg	.....	.....	0.14	3.6	Light rain	
Tucson, Arizona	27.62	701.5	30.17	766.3	45	7.2	60	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
Umatilla, Oregon	29.18	741.1	29.66	753.4	43.5	6.4	75	SW	3	1.3	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Uvalde, Texas	29.26	743.2	30.08	764.0	62	16.7	94	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Vicksburg, Mississippi	29.96	761.0	30.22	767.6	68	20.0	90	S	7	3.1	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Virginia City, Montana	24.03	610.4	29.52	749.8	27	— 2.8	64	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.76	755.9	30.15	765.8	38	3.3	95	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.32	770.1	30.44	773.2	38	3.3	91	NE	5	2.2	.....	.....	10n;fg	.....	Calm	0.10	2.5	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	46	4.4	82	NW	.....	.....	1	9cs	0	W	.....	0	0	Cloudy	
Wilmington, North Carolina	30.31	769.9	30.39	771.9	53	11.7	93	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.55	649.0	29.91	759.7	38	3.3	45	SW	17	7.6	.....	.....	9s	.....	SW	0	0	Cloudy	
Wood's Holl, Massachusetts	30.56	776.2	30.60	777.2	38	3.3	71	SE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Yankton, Dakota	28.92	734.6	30.33	770.4	14	—10.0	63	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.92	760.0	30.07	763.8	52	11.1	66	NE	6	2.7	.....	8k	0	W	.....	0	0	Fair	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.08	764.0	30.13	765.3	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	86	Calm	0	0	.....	2k	Haze	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.93	760.2	29.93	760.2	80	26.7	87	NE	.....	.....	2	5k	4ks	E	.....	0.120	3.05	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.06	763.5	30.09	764.3	73	22.8	81	N	6	2.7	.....	0	2s	.....	NE	0	0	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.01	762.2	30.12	765.0	—27.0	—32.8	.....	NW	19	8.5	.....	4k	3s	NW	NW	0	0	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bracketville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 540 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.30‡	769.6‡	.....	.....	66	18.9	100	NE	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	30.15‡	765.8‡	.....	.....	19	— 7.2	85	NNE	1	0.4	.....	.....	10	.....	.....	.....	.....	.....	.....	Light snow	
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡	.....	.....	37.5	3.1	54	N	.....	.....	3	.....	0	.....	.....	Slight	Slight	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.19‡	766.8‡	.....	.....	45	7.2	100	SE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, S. 18° 27′ W. 70° 55′	.....*	29.86‡	758.4‡	.....	.....	73	22.8	76	SE	.....	.....	2	.....	2	.....	NE	.....	.....	Long	SW	D. clouds
Colorado, New York, N. Y.	30.48‡	774.2‡	.....	.....	36	3.9	100	NE	1.3	0.6	.....	.....	10	.....	NE	0.02	0.5	.....	.....	Raining	
Constitution, Fort de France, Martinique	29.93‡	760.2‡	.....	.....	78	25.6	91	ENE	.....	.....	3	.....	6	.....	NE	.....	.....	.....	.....	Cloudy	
Enterprise. N. 40° 08′, E. 26° 24′	.....	30.28‡	769.1‡	.....	.....	47	8.3	70	NE	.....	.....	3	.....	4	.....	NE	.....	.....	Mod'ate	.....	Clear
Franklin, Off Navy Yard, Norfolk, Va.	30.41‡	772.4‡	.....	.....	51	10.6	86	N	4.8	2.1	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	42	5.6	91	SE	6.0	2.7	.....	.....	10	.....	SE	0	0	.....	.....	Foggy	
Kearsarge, Balize, British Honduras.	30.05‡	763.3‡	.....	.....	72	22.2	95	W	.....	.....	1	.....	8	.....	W	.....	.....	Smooth	.....	Cloudy	
Lackawana, Honolulu, Sandwich Id's†	30.03‡	762.7‡	.....	.....	73	22.8	67	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, N. 13° 43′, W. 41° 43′	.....	29.96‡	761.0‡	.....	.....	78	25.6	82	E	.....	.....	4	.....	8	.....	E	Drizzle	Drizzle	Mod'ate	E	Hazy
Michigan, Erie, Pa.	.....	30.03‡	762.7‡	.....	.....	45	7.2	76	SSE	.....	.....	5	.....	10	.....	SSE	.....	.....	.....	.....	Cloudy
Monocacy, Shanghai, China	.....	30.33‡	770.4‡	.....	.....	35	1.7	54	ENE	.....	.....	0-1	.....	0	.....	.....	.....	.....	.....	.....	Clear
New Hampshire, Port Royal, S. C.	.....	30.35‡	770.9‡	.....	.....	60	15.6	100	Calm	0	0	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy
Nipsic, N. 28° 55′, W. 39° 55′	.....	30.38‡	771.6‡	.....	.....	72	22.2	67	ENE	.....	.....	4	.....	5	.....	E	.....	.....	Long	E	D. clouds
Onward, Callao, Peru	.....	†.	29.89‡	759.2‡	.....	.....	70	21.1	85	SSE	.....	.....	1	.....	5	.....	.....	.....	Mod'ate	W	Fair
Palos, Tientsin, China	.....	30.29‡	769.4‡	.....	.....	33	0.6	70	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear
Passaic, Washington, D. C.	.....	30.45‡	773.4‡	.....	.....	38	3.3	91	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining
Pensacola, Callao, Peru	.....	29.86‡	758.4‡	.....	.....	69	20.6	90	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	D. clouds
Powhatan, Navy Yard, Brooklyn, N.Y.	30.52‡	775.2‡	.....	.....	41	5.0	91	ENE	.....	.....	2	.....	10	.....	.....	Light	Light	.....	.....	Drizzling	
Quinnebaug, Villafranca, France	.....	30.44‡	773.2‡	.....	.....	56	13.3	63	ESE	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Fair
Ranger, Honolulu, Sandwich Id's.	30.02‡	762.5‡	.....	.....	73	22.8	72	ENE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
Richmond, Hong-Kong, China	.....	30.07‡	763.8‡	.....	.....	63	17.2	72	E	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear
Rio Bravo, Brownsville, Texas	.....	†.	30.27‡	768.8‡	.....	.....	61	16.1	77	SE	1	0.4	.....	.....	2	.....	SE	0.02	0.5	.....	.....	Fair
Santee, Annapolis, Md	.....	30.45‡	773.4‡	.....	.....	39	3.9	100	NE	.....	.....	1	.....	10	.....	NE	0.01	0.3	.....	.....	Drizzling
Shenandoah, Montevideo, Uruguay	.....	29.99‡	761.7‡	.....	.....	68	20.0	56	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair
St. Louis, League Island, Pa.	.....	30.42‡	772.7‡	.....	.....	35	1.7	90	NE	6	2.7	.....	.....	10	.....	.....	0.3	8.	.....	.....	Raining
Tennessee, New York, N. Y.	.....	30.57‡	776.5‡	.....	.....	38	3.3	91	ENE	8	3.6	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast
Trenton, Villafranca, France	.....	30.42‡	772.7‡	.....	.....	61	16.1	77	N	.....	.....	2	.....	5	.....	.....	0	0	Smooth	.....	D. clouds
Tuscarora, N. 13° 42′, W. 90° 14′	.....	29.92‡	760.0‡	.....	.....	74	23.3	90	NNE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear
Vandalia, Navy Yard, Brooklyn, N.Y.	.....	30.54‡	775.7‡	.....	.....	40	4.4	73	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy
Wabash, Boston, Mass.	.....	30.65‡	778.5‡	.....	.....	35	1.7	80	E	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Overcast
Wachusett, Montevideo, Uruguay.†	.....	30.49‡	774.4‡	.....	.....	66	18.9	59	S	.....	.....	2	.....	0	.....	.....	.....	.....	Mod'ate	S	Clear
Wyoming, Villafranca, France	.....	30.45‡	773.4‡	.....	.....	53	11.7	80	ESE	.....	.....	0-1	.....	2	.....	E	.....	.....	Smooth	SE	Clear

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford, Philadelphia, Pa.†		30.47‡	773.9‡	37	2.8	90	NE			3		10		NE				Cloudy	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, Mersey River, Eng		30.76‡	781.3‡	46	7.8		S			2		7		SW	0			Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger																			
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson, N. 48° 09′, W. 32° 19′		29.27‡	743.4‡	51	10.6	93	WSW			7		10m				Mod'ate	NW;S	Raining	
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 42° 24′, W. 57° 06′		30.69‡	779.5‡	40.0	4.4	100	NNE			4		8		N	0	Mod'ate	N	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.46‡	773.4‡				W			8		10		W				Foggy	
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 27° 10′, E. 124° 03′		30.23‡	767.8‡	58	14.4		NE			2		ks		NE	0	Smooth	NE	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			E. LeLack.
S. S. City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. S. 34° 20′, E. 173° 51′		29 99‡	761 7‡				NE			6				SE		Mod'te	SE	Overcast	

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

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 19° 25′, W. 3 ° 56′		29.91‡	759.7‡	79.5	26.4		ESE			2		5		ESE		Smooth	ESE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

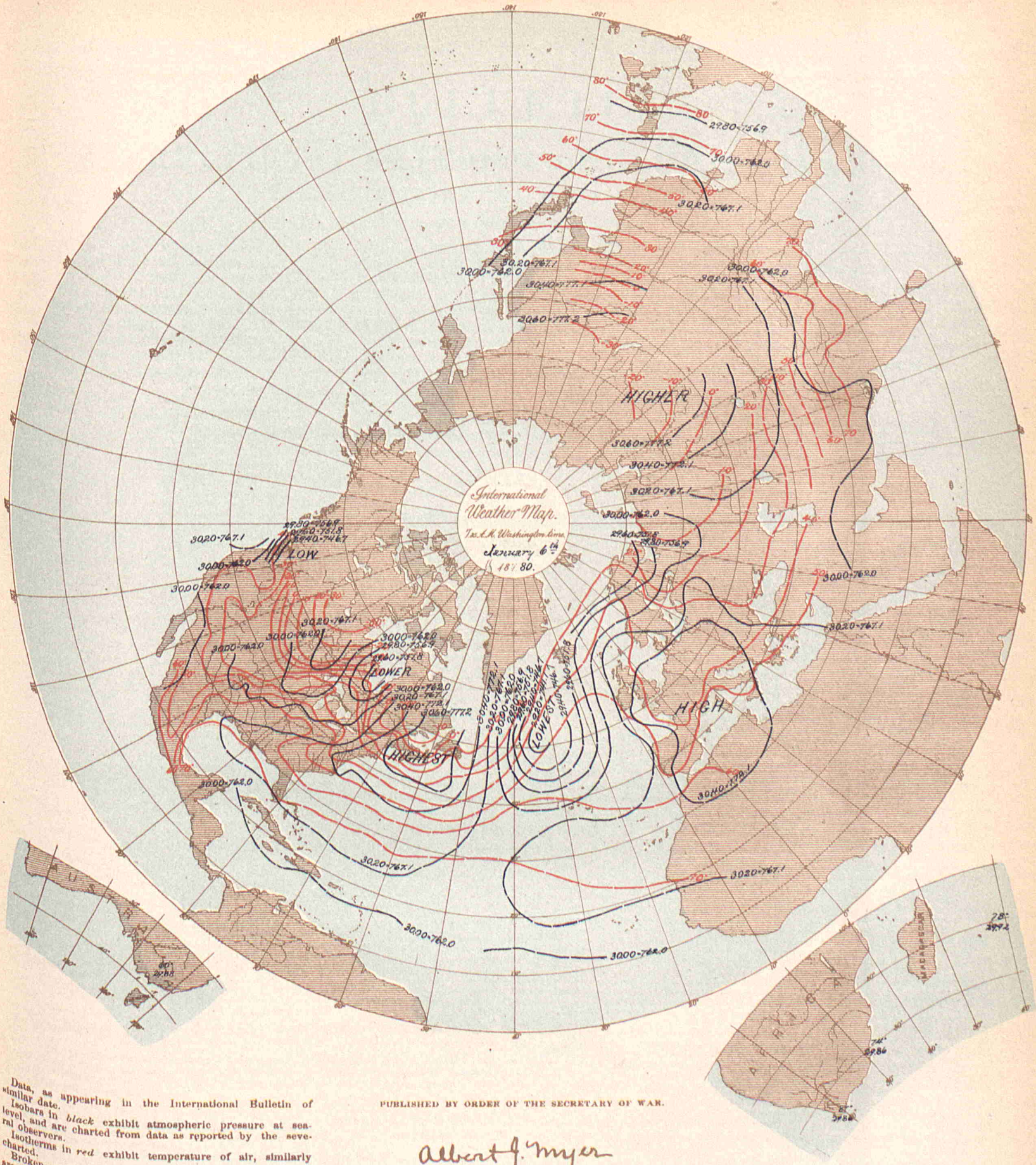
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 7, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.45	773 3				NE			1		0					Clear.	
Nemours			30 45	773.4	58.6	14.8	89	N			1		2			0	0	Fair	Kesxuche.
Algiers			30.50	774 0	57.6	14.2	67	NNE			2		0			0	0	Clear.	Tourillere.
La Calle			30.48	774.1	55.0	12.8	87	N			1		9			0.118	3.0	Covered	Foufrede.
Tunis																			Jacques
Stax																			Gau.
Saida			30.51	775.0															Herbin.
Tebessa			30.47	774.0															
Geriville			30.48	774.2	43.2	6.2	79	NW			1		9			0	0	Covered	Watrin.
Laghouat								SE			1		4			0	0	Cloudy	Brugniaux.
Biskra			30.50	774.8	50.7	10.4	42	N			1		2			0	0	Fair	Bertrand.
			30.48	774.1	61.2	16.2	79	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.54	750.3	30.55	770.9	31.8	— 0.1	96	WNW	11.4	5.1		10				0.020	0.5		Dr. Wierzbicki.
Eperies	29.34	745.2	30.27	768 9	30.2	— 1.0	80	NW			1	10s				0	0		Julius Mikolik.
Gratz	29.14	740.2	30.47	774.0	30.6	— 0.8	65	S			2	0				0	0		Andreas Rospini.
Hermannstadt	28.77	730.8	30.29	769.3	30.4	— 0.9	88	NW			3	10				0.028	0.70		Prof. A. Gottschling.
Kremsmünster	29.17	740.8	30.61	777.0	26.6	— 3.0	98	NW			2	10				0	0		Prof. C. Wagner.
Lemberg	29.08	738.5	30.11	764.8	33.4	0.8	87	SW			1	10				0.055	1.4		Dr. T. Stanecki.
Pola	30.35	771.0	30.47	774.0	41.0	5.0	87	WNW			1	6				0	0		I.R.Hydrographic Office
Szathmar	29.84	758.0	30.34	770.6	29.8	— 1.2	96	SW			2	10				0	0		Pet. Pancsics, S. J.
Szegedin	30.05	763.3	30.36	770.9	32.9	0.5	89	SW			1	10				0	0		Karl Stancel.
Trieste	30.39	772.0	30.50	774.6	35.2	1.8	78	Calm			0	0				0	0	Foggy	P. Busin.
Vienna	29.73	755.2			34.2	1.2		NW			4					Inap.	Inap.		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.47	774.0	30.69	779.4	29.8	— 1.2	95	E			1	10				0	0	Light fog	Royal Observatory
Furnes	30.67	778.9	30.69	779.5	31.1	— 0.5	93				1	10				0	0	Foggy	M. E. de Cae.
Maeseyck	30.58	776.7	30.71	779.9	31.1	— 0.5	91	WNW			2	10				0	0	Foggy	M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.43	772.9	30.53	775.4	47.7	8.7	.....	S	12	5.4	.....	.....	2	.....	.....	0.010	0.25	Blue sky	W. Boswell.
Ardrossan	30.57	776.5	30.59	777.0	46	7.8	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	G.Carrick.
Armagh, (Observatory)	30.35	770.9	30.58	776.7	48.0	8.9	.....	SSW	10	4.5	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.64	778.2	45.4	7.4	.....	SE	6	2.7	.....	.....	9	.....	.....	.....	.....	Misty	John Hartnup.
Bolton (Sharples)	30.09	764.3	30.62	777.7	43.6	6.4	.....	S	.....	.....	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.23	767.8	30.63	778.0	45.5	7.5	94	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.87	758.7	29.90	759.4	79	26.1	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.56	776.2	30.66	778.7	37.1	2.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.62	777.7	57.6	14.2	.....	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.55	776.0	30.69	779.5	36.2	2.3	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Geo. Stuart, Q. M. S'gt
Dollar Aghadee	30.57	776.5	30.61	777.5	48	8.9	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.64	778.2	30.67	779.0	34	1.1	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	30.37	771.4	30.61	777.5	41.5	5.3	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.38	695.4	29.60	751.8	89.8	32.1	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.51	774.9	46	7.8	.....	E	.....	.....	2	.....	7	.....	.....	0	0	D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.38	771.6	30.58	776.7	47 6	8.7	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.63	778.0	30.64	778.2	37	2.8	.....	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.49	774.4	30.67	779.0	36.3	2.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.38	771.6	30.61	777.5	33.5	0.8	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	Dr. S.E Hoskins, F.R.S.
Helston	30.68	779.3	30.80	782.3	44	6.7	.....	E	.....	.....	2	.....	10k	.....	.....	0	0	Gloomy	M. P. Moyle.
Holyhead	30.59	777.0	30.64	778.2	47	8.3	.....	SSW	.....	.....	1	.....	10	.....	.....	0	0	Misty	John Tilston.
Jersey	30.34	770.6	30.66	778.7	32.2	0.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.63	778.0	30.67	779.0	36.1	2.3	.....	SSE	1	0.4	.....	.....	10	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.38	771.6	30.65	778.5	40.0	4.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.32	770.1	30.39	771.9	56	13.3	.....	NE	.....	.....	2	.....	8k	.....	.....	.....	.....	Overcast	A. King.
Nairn	30.38	771.6	30.47	773.9	45	7.2	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.20	767.1	72.5	22.5	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.46	773.7	30.66	778.7	42.0	5.6	.....	S	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.10	764.5	30.64	778.2	41.1	5.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.54	775.7	30.61	777.5	40.1	4.5	.....	F	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	30.47	773.9	30.57	776.5	48	8.9	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.46	773.7	30.63	778.0	42	5.6	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.48	774.2	42.5	5.8	.....	S	9	4.0	.....	.....	10	.....	.....	.....	.....	Foggy	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.22	767.6	30.28	769.1	35.0	1.7	.....	NNW	.....	.....	3	.....	8	.....	.....	Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	30.35	770.9	30.64	778.2	47 0	8.3	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.59	777.0	30.62	777.7	45.0	7.2	92	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.64	778.2	43.7	6.5	.....	S	2	0.9	.....	.....	10	.....	.....	.....	.....	Foggy	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	35.2	1.8	.....	SE	. . .	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.52	775.2	30.58	776.7	43	6.1	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia (Observatory)	30.50	774.7	30.52	775.2	49.0	9.4	.....	SE	23	10.3	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.71	754.6	29.75	755.6	72.0	22.2	61	NW	10.5	4.7	.....	2	4	.....	.....	1.35	34.3	Heavy rain	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.42	673.6	.....	.....	86	30.0	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.28	769	61.7	16.5	.....	SE	.....	.....	Slight	.....	Slight	.....	.....	0	0	Fine	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.61	777.5	49.0	9.4	.....	W	.....	.....	1	.....	10k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.71	754.6	29.90	759.4	79.8	26.6	64	E	24.6	11.0	.....	0	6	.....	ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.49	749.0	29.58	751.3	69.2	20.7	66	SSE	5	2.2	.....	.....	7	.....	.....	0.01	0.3	Showery	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.43	772.9	49	9.4	.....	SSE	.....	.....	6	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.39	771 9	.....	.....	.....	SW	.....	.....	4	3	5	SW	.....	0	0	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	28.80‡	731.5‡	56.8	13.8	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 48° 30′, W. 14° 45′	.....	.....	30.28	769.1	55	12.8	.....	SSE	.....	.....	5	.....	5	.....	.....	5	ESE to SSW	D. clouds	Capt. A. J. Brown
City of Cashmere, S. 48° 04′, W. 115° 33′	.....	.....	29.71‡	754.6‡	49.4	9.7	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 28° 15′, W. 60° 25′	.....	.....	30.33‡	770.4‡	71.3	21.8	.....	ENE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S Ethiopia, N. 52° 50′ W. 30° 25′	.....	.....	29.98	761.5	38	3.3	.....	W	.....	.....	4	.....	4	.....	.....	6	WNW	D. clouds	Capt. Campbell.
Barque Fedalma, N. 34° 40′, W. 41° 30′	.....	.....	30.24	768.1	55	12.8	.....	N	.....	.....	6	.....	8	.....	.....	5	NW	Rain & hail	Capt. H. L. Fox.
S. S. German, S. 25° 30′, E. 10° 11′	.....	.....	29.88‡	758.9‡	67	19.4	.....	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
S. S. Strathleven, N. 12° 45′, E. 45° 00′	.....	.....	29.90‡	759.4‡	73.5	23.1	.....	ESE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam, N. 49° 50′, W. 5° 30′	.....	.....	30.59	777.0	44	6.7	.....	E	.....	.....	5	.....	10	.....	.....	3	ESE	Overcast	Capt. C M. Dobson.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759 7	65.8	18.8	83	NE			3	4d		SE		Inap.	Inap.		Federico Maison.

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

DANISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.50	774.7	30.55	775.9	38.5	3.6	72	NW			2		0						
Faröe	30.57	776.5	30.59	777.0	36.9	2.7	91	NW			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.33	745.0	29 37	746.1	42.4	5.8	86	S			8		10						Raining
Thorshavn (Faröe)	30.23	767.8	30.26	768.7	48.6	9.2	93	SSW			6		10						
Vestervig	30.48	774.1	30.59	776.9	35.8	2.1	96	Calm			0		0						

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

FRENCH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	30.02	764.1	30.03	778.1	30.6	— 0.8	96	S			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.57	776 4	30.69	779.4	31.3	— 0.4	89	NE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.41	772.4	30.69	779.6	28.0	— 2.2	92	SSE			2		0			0	0	Misty	Klein, Commandant.
Avignon, Normal School	30.49	774.5	30.57	776.5	40.5	4.7	65	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.07	763.8	30.67	779.1	30.0	— 1.1	88	SSE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.38	771.7	30.67	779.0	30.9	— 0.6	84	E			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.72	754.9	30.63	779.4	29.5	— 1.4		ENE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.29	769.4	30.49	774.4	44.1	6.7	65	W			2		0			0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.76	756.0	30.69	779.4	29.1	— 1.6	96	NW			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	30.05	763.2	30.64	778.3	30.2	— 1	98	ENE			2		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.35	771.0	30.60	777.2	36.0	2.2	82	ESE			1		10		E	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.58	776.7	30.60	777.3	32.2	0.1	85	SSE			1		10		NNE	0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	30.03	762.7	30.46	773.7	46.4	8	62	NW			2		5	E	E	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.36	771.1	30.70	779.8	30.4	— 0.9		SE			1		10					Covered	Jadot, Director
Chartres, Normal School	30.05	763.3	30.67	778.9	28.0	— 2.2	48	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.17	740.8	30.63	778.0	26.6	— 3.0	100	NW			1		10			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.77	756.2	30.70	779.8	29.3	— 1.5		ESE			1		10	ESE	ESE	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.40	746.8	30.54	775.8	51.3	10.7	48	NE			1		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.87	758.8	30.71	779.9	28.8	— 1.8		E			1		8n			0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.35	771.0	30.58	776.8	36.3	2.4	75	NNW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	30.32	770.1	30.65	778.5	29.5	— 1.4	96	SE			2		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.71	754.6	30.67	778.9	26.6	— 3	92	NE			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.50	774.6	30.61	777.4	32.7	0.4	92	NE			1		10			0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.98	761.6	30.65	778.5	30.0	— 1.1	88	SE			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.22	767.5	30.49	774.4	54.3	12.4	56	WSW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.57	751.0	30.70	779.8	25.3	— 3.7	95	NE			1		10			0	0	Foggy	Barbier, Director.
Mont-Louis	25.14	638.6	30.46	773.6	41.9	5.5	48	SW	13.0	5.8			0			0	0		M. Cave
Nismes, Normal School	30.43	772.9	30.46	773.7	54.0	12.2	72	SW			2		1	S	SW	0	0	Clear	M. Boissière, Director.
Paris, Montsouris Obs'y	30.34	770.6	30.55	776.0	50.9	10.5	70	SE			1		0			0	0	Clear	M. Boyer, Director.
Perpignan	30.37	771.4			30.0	— 1.1	84	E			1		10			0	0		Marié Davy, Director.
Pic du Midi (Plantade) H. P.	30.41	772.3	30.52	775.2	45.0	7.2	80	E	7.4	3.3			9		NE	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.	22.71	576.7			35.8	2.1									N	0	0		Gen'l de Nansouty.
Privas, Normal School																			M. Baylac.
Puy de Dome (Summ') Obs	29.50	749.4	30.66	778.7	27.7	— 2.4		N			1		10	NE	NE	0	0	Covered	M. Tallieu
Rochefort, Naval Obs'y	25.48	647.2			31.3	— 0.4	70	SSE			3		2			0	0	½ covered	Alluard, Director.
Rouen, Normal School	30.53	775.4	30.56	776.2	38.8	3.8	83	NE			2		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.57	776.4	30.65	778.6	30.7	— 0.7	82	SE			1		10			0	0	Covered	Frère Lucard, Director
Saint Maur (near Paris)	30.58	776.8	30.61	777.6	32.5	0.3	73	ESE			2		10			0	0	Misty	Lt. Hercouet, Director
Tarbes, Normal School	30.50	774.6	30.66	778.8	30.0	— 1.1	83	E			1		10			0	0		E. Renou, Director.
Toulouse, Observatory	29.35	745.6	30.48	774.1	43.7	6.5	40	W			1					0	0		T. Huguet, Director.
Tours	29.81	757.1	30.54	775.8	43.2	6.2	76	SW			1		8	SE		0	0	Very cloudy	M. Julier Mercadier.
Versailles, Observatory	30.40	772.1	30.69	777.1	32.0	0.0	92	E			1		10			0	0	Misty	Cousin-Marquet.
Villefranche-sur-Saone, N.S	30.14	765.5	30.63	778 0	29.5	— 1.4	80	ESE			2		10			0	0	Covered	Dr. A. Berigny, Director
Sun-Series.	29.90	759.4	30.67	778.9	31.3	— 0.4	98	SE			1		5			0	0	Cloudy	Nicot, Director.
Fort de France, Martinique																			
Zi-Ka-Wei (near Shanghai	29.91	759.6	29.93	760.3	75.2	24										3.03	77.		L'Abbé Marchési
	30.17	766.4	30.20	767.0	38.7	3.7	91	E	8.3	3.7			0			0	0	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been applied. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.74	755.4	30.62	777.8	31.3 — 0.4		83	NW			4		10ks	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.36	771.1	30.54	775.7	38.5 3.6		90	NW			4		10			0.012	0.3		Prof. Dr. Arndt.
Breslau	29.91	759.6	30.45	773.3	32.7 0.4		92	WNW			5		10					Raining	Royal University Obs'y.
Carlsruhe	30.23	767.7	30.65	778.5	29.1 — 1.6		93	SE			1		10			0	0		Albert Senz.
Cassel	30.04	763.0	30.66	778.7	33.8 1.0		81	W			2		10			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.36	771.2	30.75	781.0	32.0 0.0		70	NNE			0		10			0	0		Physical Society.
Friedrichshafen	29.13	740.0	30.68	779.2	28.4 — 2.0		92	SW			1		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.55	775.9	30.62	777.7	36.9 2.7		96	NW			1		10			0.008	0.2	Light fog	Dr. Reinhold Kleeman.
Kiel	30.60	777.1	30.61	777.5	36.0 2.2		94	WNW			1		0			0.018	0.46		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.16	766.1	30.25	768.3	37.9 3.3		83	NW			5		6			0.102	2.6		Prof. E. Luther.
Köslin			30.44	773.1	37.4 3.0			N			2		0			0	0		H. Müller.
Leipsic Observatory	30.19	766.8	30.64	778.2	32.7 0.4		96	WNW			2		10					Snow-fog	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.36	771.2	30.60	777.1	36.5 2.5		87	W			5		10ks	W				Sprinkling	Dr. Assmann.
Memel	30.17	766.2	30 21	767.4	37.0 2.8		77	N			5-6		7k						Reinbrecht & Issermann.
Munich (München)	28.27	729.4	30.62	777.7	23.9 — 4.5		98	W			2		10			0	0		Dr. C. Lang.
Neufahrwasser	30.32	770.2	30.34	770.6	37.2 2.9		85	NNW			4		0			0.071	1.8		A. Lothes.
Neustadt (Palatinate)	30.12	765.1	30.66	778.7	30.6 — 0.8		96	NW			1		10			0	0		Reallehrer Dicknether.
Posen	30.13	765.2	30.39	772.0	35.6 2.0		100	NW			8		10			0.031	0.8		Prof. Dr. Magener.
Strassburg (in Alsace)	30.13	765.3	30.72	780.4	29.3 — 1.5		86	NE			1		10			0	0		Imp. University Observatory.
Stuttgart	29.66	753.3	30.67	779.0	27.5 — 2.5		85	N			1		10			0	0	Hazy	Prof. Dr. Schoder.
Thorn	30.18	766 5	30.37	771.4	37.4 3.0		90	NW			3		10			0.004	0.11		Dr. Cunerth.
Weissenburg (Bavaria)	29.09	738.8	30.70	779.7	27.9 — 2.3		94	NNW	0.9	0.4			10			0	0	Dense fog	Reallehrer J. Hopfner
Wustrow	30.54	775.8	30.57	776.4	35.6 2.0		100	WSW			4		8s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.97	761.3	30.38	771.7	41.0	5.0		N			4.0		5					⅛ clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.88	759.0	29.93	760.3	72.9	22.7	46	W	8	3.6			2			0	0	D. clouds	
Deesa	29.46	748.3	29.94	760.5	77.2	25.1	31	W	8.1	3.6			0			0	0	Blue sky	
Bombay	29.81	757.3	29.85	758.2	77.9	25.5	78	NW	11	4.9			0			0	0	Blue sky	
Poona (Yarrowda)	28.01	711.5	29.86	758.4	82.0	27.8	17	E	10	4.5			0			0	0	Blue sky	
Belgaum	27.33	694.3	29.87	758.6	77.7	25.4	38	E	2	0.9			2	SW		0	0	D. clouds	
Lahore	29.10	739.2	29.88	758.8	60.6	15.9	50	Calm	0.3	0.1			3			0	0	Blue sky	
Roorkee	29.08	738.7	30.01	762.3	64.8	18.2	52	W	5.0	2.2			3			0	0	D. clouds	
Agra	29.27	74 5	29.85	758.2	69.2	20.7	46	W	6.8	3.0			0			0	0	Blue sky	
Nagpur	28.82	732.0	29.87	758.8	75.7	24.3	29	S	2.6	1.2			0			0	0	Blue sky	
Jubbulpore	28.50	723.8	29.89	759.2	69.6	20.9	51	Calm	1.7	0.8			0			0	0	Blue sky	
Lucknow	29.45	747.9	29.84	757.8	65.3	18.5	38	Calm	2.0	0.9			0			0	0	Blue sky	
Allahabad	29.53	750.0	29.86	758.3	61.5	16.4	62	Calm	3.0	1.3			0			0	0	Blue sky	
Patna	29.66	753.4	29.85	758.2	66.8	19.3	66	Calm	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.78	705.5	29.86	758.4	59.8	15.4	45	W	8.1	3.6			0			0	0	Blue sky	
Cuttack	29.75	755.7	29.84	757.8	75.1	23.9	43	W	2.0	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.80	756.9	29.82	757.5	67.8	19.9	55	Calm					0			0	0	Blue sky	
Goalpara	29.44	747.7	29.84	757.9	67.8	19.9	63	NW	1.0	0.4			0			0	0	Misty	
Chittagong	29.76	755.9	29.85	758.3	68.3	20.2	65	Calm	0.8	0.4			0			0	0	D. clouds	
Sibsagar	29.51	749.5	29.86	758.3	67.0	19.4	73	Calm	0.9	0.4			6	W	W	0	0		

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	30.04	763.1	30.48	774.1	38.5	3.6	57	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.99	761.7	30.54	775.8	33.8	1.0	81	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.38	771.6	30.50	774.6	23.9	— 4.5	93	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.56	750.7	30.50	774.7	29.1	— 1.6	76	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.30	769.7	30.50	774.8	53.6	12.0	49	SE	0.2	0.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.50	723.9	30.50	774.6	40.3	4.6	47	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.47	773.9	30.52	775.1	37.2	2.9	76	NW	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.23	767.9	30.51	774.9	40.1	4.5	53	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.41	772.4	30.50	774.7	48.2	9.0	46	NE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.30	769.5	30.48	774.1	47.8	8.8	53	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.15	765.7	30.41	772.4	48.9	9.4	18	NE	15.4	6.9	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.52	749.7	30.44	773.1	46.4	8.0	68	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.24	768.1	30.44	773.2	54.3	12.4	55	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.21	767.4	30.47	774.0	52.2	11.2	52	N	4.3	1.9	.....	.....	5	N	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.37	771.5	30.42	772.7	51.6	10.9	68	E	6.3	2.8	.....	.....	3	W	.....	0.063	1.6	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.91	759.7	30.45	773 5	50.7	10.4	58	ENE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.25	768.3	30.27	768 8	33.2	0.7	79	NNE	9.2	4.1	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.07	763.8	30.29	769.3	34.0	1.1	89	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.12	765.0	30.6	— 0.8	68	N	3.2	1.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.19	766.8	30.24	768.1	33.2	0.7	83	NW	2.0	0.9	.....	.....	0	.....	.....	0	0	Clear.	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.16	639.0	30.36	771.2	42.8	6.0	54	W	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.55	623.5	30.33	770.3	54.0	12.2	78	NE	.....	.....	3	3k	0	NW	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.74	755.4	30.00	762.1	65.1	18.4	82	E	.....	.....	2	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.16	588.2	30.32	770.2	45.5	7.5	84	W	2.2	1.0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.05	610.9	.....	.....	57.7	14.3	69	N	.....	.....	2	4k	2s	N	NE	0	0	Foggy	M. Fena, M. D.
Pabellon (Aguascalientes)	24.04	610.7	30.17	766.2	49.6	9.8	79	NW	.....	.....	2	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.5	30.33	770.4	48.0	8.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.34	618.2	30.45	773.4	50.0	10.0	60	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.10	764.6	30.11	764.9	71.4	21.9	92	N	.....	.....	2	1	6	E	N	0.72	18.2	Raining	Prof. M. M. Chazaro.
Vera-Cruz	30.15	765.7	30.17	766.4	74.8	23.5	91	NW	4.5	2.0	.....	8k	0	NE	.....	12.0	3.0	Cloudy	Prof. J. Rossell
Zacatecas	22.68	576.1	30.44	773.2	49.1	9.5	83	SE	.....	.....	3	9c	0	SE	.....	0	0	Very cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.70	779.9	30.70	779.9	33.8	0.7	.....	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.59	777.0	30.65	778.4	35.2	1.8	.....	W	.....	.....	0	.....	.....	.....	.....	0.012	0.3	.....	
Helder	30.67	778.9	30.67	778.9	36.7	2.6	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.69	779.6	30.69	779.6	32.9	0.5	91	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.65	778.5	30.70	779.7	35.4	1.9	85	SS	.....	.....	0	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.48	774.1	30.53	775.5	39.2	4.0	87	SSE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	
Brönö	30.08	764.0	30.12	765.0	41.4	5.2	66	WNW	18	8	.....	.....	9	.....	.....	0.591	15.0	.....	
Christiana	30.33	770.3	30.48	774.3	24.3	— 4.3	93	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.59	751.6	29.63	752.7	30.7	— 0.7	88	SW	9	4	.....	.....	10	.....	.....	0.370	9.4	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.47	748.6	30.53	775.4	43.5	6.4	77	ENE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.26	768.7	30.35	770.9	65.1	18.4	46	SE	8.1	3.6	.....	.....	4	.....	.....	0.173	4.4	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.15	765.9	30.53	775.4	46.2	7.9	79	NNE	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.99	761.8	30.07	763.6	60.4	15.3	83	S	18.8	8.4	.....	.....	3	.....	.....	0.020	0.5	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.																			
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	79.2	26.2	.....	NE	.....	.....	1	.....	2	.....	NE	1	E	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello,																			
St. Paul de Loando, Gulf of Guinea.	.....	.....	29.88	758.9	82.8	28.2	.....	NW	.....	.....	2	.....	3	.....	W	.....	.....	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.19	766.8	66.9	19.2	.....	Calm	.....	.....	0	.....	6	.....	.....	1	N	D. clouds	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.65	753.2	29.67	753.7	15.4	— 9.2	97	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.16	766.1	30.08	764.0	20.5	— 6.4	100	Calm	0	0	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	30.00	761.9	30.58	776.7	—13.0	—25.0	93	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.72	755.0	29.98	761.5	29.7	— 1.3	94	NW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.97	735.7	30.02	762.6	4.3	—15.4	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.74	755.3	30.03	762.8	9.7	—12.4	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light snow	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.27	743.4	29.95	760.7	21.2	— 6.0	87	S	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow	Physical Cabinet.
Krotkowo*	29.46	748.2	29.99	761.7	— 4.7	—20.4	80	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.83	757.6	30.05	763.2	20.5	— 6.4	79	NE	2	1	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Moscow	29.45	748.0	30.05	763.2	14.0	—10.0	80	NNW	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.90	708.6	30.63	778.1	—29.4	—34.1	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.04	763.1	30.11	764.9	20.8	— 6.2	79	Calm	0	0	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.81	757.1	30.05	763.3	28.8	— 1.8	88	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.07	763.7	30.21	767.3	24.1	— 4.4	65	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.79	756.6	29.80	757.0	28.9	— 1.7	94	NW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.45	722.5	30.08	763.9	36.7	2.6	100	.....	.....	.....	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Tiflis	28.56	725.4	30.04	763.0	34.3	1.3	56	N	4	2	.....	7ck	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.75	755.6	30.19	766.9	34.5	1.4	94	NW	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.53	750.1	29.97	761.2	33.1	0.6	92	NNW	11	5	.....	.....	10	.....	.....	.....	.....	Rain & snow	Astronomical Obs.
Yeniseisk	30.40	772.1	30.74	780.8	—19.3	—28.5	78	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.43	772.9	30.54	775.6	48.2	9	45	SW	2.7	1.19	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.42	772.7	30.48	774.2	52.0	11.1	54	SE	2.4	1.05	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.47	697.7	.....	.....	28.8	— 1.8	92	N	1.1	0.49	.....	0	0	.....	.....	0	0	Foggy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.25	717.5	30.56	777.0	42.4	5.8	73	NE	3.7	1.67	.....	0	3	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	30.38	771.6	30.53	775.5	53.4	11.9	69	WSW	1.3	0.58	.....	5	5	NE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.53	750.0	30.45	773.5	48.0	8.9	73	N	0	0	.....	.....	2	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.12	765.0	30.19	766.7	67.2	19.6	91	Calm	0	0	.....	0	5k;s	.....	E	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.77	756.3	29.84	757.8	80.4	26.9	81	E	0	0	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.40	772.1	30.50	774.6	60.6	15.9	70	SE	13.6	6.1	.....	0	6	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	761.0	30.05	763.3	76.6	24.8	79	SE	12.0	5.38	.....	5ck	3kn	SE	SE	0.118	3.00	Cloudy	Enrique Gaden, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.77	756.2	29.81	757.2	19.4	— 7.0	.....	W	.....	.....	2	.....	1	.....	.....	0	0	.....	
Umea	29.95	760.6	30.00	761.9	31.3	— 0.4	78	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.07	763.7	30.12	765.0	38.5	3.6	60	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.12	765.1	30.30	769.6	33.4	0.8	68	NW	.....	.....	2	.....	0	.....	.....	0.024	0.6	.....	
Wisby	30.21	767.3	30.27	768.8	36.0	2.2	79	NNW	.....	.....	7	.....	0	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	30.13	766.7	30.27	768.9	33.1	0.6	71	WNW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.16	740.6	30.67	779.0	27.0	— 2.8	95	ESE	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.93	734.9	30.67	778.9	27.7	— 2.4	86	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +12.9 mm.; Thermometer, —4.2 Cent.; Relative Humidity, +15 per cent

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.30	769.7	35.6	2.0	70	NW	7	3.0	.....	.....	10	.....	NW	.....	.....	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.31	769.9	46.8	8.2	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.06	763.4	55.9	13.3	56	W	.....	.....	1	.....	6n	.....	W	0.72	18.3	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	30.29	769.4	30.30	769.6	21.6	— 5.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.26	768.6	30.33	770.4	13.9	—10.0	91	SW	1	0.4	.....	1c	1ks	SW	.....	0.13	3.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.21	767.3	30.26	768.6	30.7	— 0.7	80	NW	12	5.4	.....	0	0	.....	.....	0.34	8.6	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.22	767.6	30.42	772.7	21.9	— 5.6	97	NW	.....	.....	1	0	0	.....	.....	0.21	5.3	Clear	James Smith, M. A.
Dalhousie, N. B	30.11	764.8	30.28	769.1	21.0	— 6.1	.....	W	3	1.3	.....	0	0	.....	.....	0.30	7.6	Clear	H. A. Johnson.
Father Point, Quebec	30.35	770.9	30.37	771.4	19.9	— 6.7	85	NW	15.0	6.7	.....	0	0	.....	.....	0.08	2.0	Clear	J. McWilliams.
Fredericton, N. B	30.31	769.9	30.38	771.6	13.1	—10.5	100	NW	2	0.9	.....	6ck·cs	0	W	.....	0.25	6.3	Fair	Prof. Harrison.
Fort Garry, Manitoba	29.25	742.9	30.20	767.1	—13.0	—25.0	95	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.19	741.4	30.34	770.6	33	0.6	.....	SE	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	30.11	764.8	30.25	768.3	35.2	1.8	91	N	12	5.4	.....	0	0	.....	.....	0.54	13.7	Clear	A. Allison.
Hamilton, Ontario	30.02	762.5	30.41	772.4	36.5	2.5	92	E	.....	.....	2	10cs	0	E	.....	0	0	Cloudy	Geo. Dickson, B. A. E. Weedon.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Kingston, Ontario	30.07	763.8	30.44	773.2	24.7	— 4.1	91	NE	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.15	765.8	30.19	766.8	32.7	0.4	90	NE	6	2.7	.....	4k	0	N	.....	0.20	5.1	Fair	C. H. Rigby.
Montreal, Quebec	30.26	768.6	30.47	773.0	21.9	— 5.6	73	NE	8	3.6	.....	9cs	Sn'o	.....	.....	0.16	4.1	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.33	770.4	30.37	771.4	— 4.9	—20.5	86	E	.....	.....	1	.....	10	.....	.....	0	0	Cloudy	J. R. Nerson.
Norwood	29.65	753.1	30.39	771.9	24.8	— 4.0	100	SE	2	0.9	.....	2cs	0	.....	.....	0.12	3.0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.65	753.1	30.39	771.0	28.0	— 2.2	88	E	12	5.4	.....	2cs	0	W	.....	0.11	2.8	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.63	752.6	30.44	773.2	23.3	— 4.8	99	SW	.....	.....	1	0	0	.....	.....	0.21	5.3	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.62	752.3	30.35	770.9	55.0	1.7	90	NE	5	2.2	.....	10k	0	NE	.....	0.07	1.8	Cloudy	H. Morgan.
Port Stanley, Ontario	29.65	753.1	30.32	770.1	36.8	2.7	83	E	9	4.0	.....	.....	10n	.....	.....	0.05	1.3	Cloudy	M. Payne.
Quebec, Quebec	30.10	764.5	30.46	773.7	19.0	— 7.2	69	NW	.....	.....	1	0	0	.....	.....	0.30	7.6	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.18	766.6	30.35	770.9	32	0.0	79	W	12	5.4	.....	0	0	.....	.....	0.41	10.4	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.61	752.1	30.37	771.4	26	— 3.3	100	SE	1	0.4	.....	1cs	0	.....	.....	0.10	2.5	Clear	K. Stewart.
Stratford, Ontario	29.01	736.8	30.35	770.9	33.0	0.6	92	SE	12.0	5.4	.....	.....	10s	.....	.....	0.06	1.5	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.13	765.3	30.17	766.3	35.0	1.7	86	NW	4	1.8	.....	1ck	9ks	W	.....	0.35	8.9	Clearing	T. C. Hill, C. E.
Toronto, Ontario	30.00	762.0	30.40	772.1	33.3	0.7	83	E	9	4.0	.....	.....	Fog	.....	.....	0.05	1.3	Foggy	Magnetic Observatory
Windsor, N. S	30.26	768.6	30.36	771.1	33.0	0.6	89	SW	16	7.2	.....	6k	0	.....	.....	0	0	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.23	742.4	30.34	770.6	33.5	0.8	94	NE	20	8.9	.....	.....	10s	.....	.....	0.02	0.5	Overcast	Professor Wolverton.
Yarmouth, N. S	30.19	766.8	30.26	768.6	34.5	1.4	83	NE	4	1.8	.....	0	0	.....	.....	0.48	12.2	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.81	757.2	30.07	763.8	33	0.6	.....	SW	.....	.....	.....	.....	10n	.....	.....	Blank	Blank	Stormy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.00	762.0	20.1	— 6.6	.....	SW	.....	.....	4	cs	n	.....	.....	0	0	Cloudy	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.18	766.6	30.42	772.7	34	1.1	79	NW	17	7.6	.....	0	0	.....	.....	0.11	2.8	Clear.	
Alpena, Michigan	29.62	752.3	30.31	769.9	25	— 3.9	87	SE	4	1.8	.....	0	5s	.....	S	0	0	Fair...	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.08	738.6	30.23	767.8	58	14.4	93	NW	2	0.9	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy.....	
Atlantic City, New Jersey	30.29	769.4	30.30	769.6	43	6.1	100	N	5	2.2	.....	.....	Fog	.....	Calm	0.07	1.8	Foggy.....	
Augusta, Georgia	30.10	764.5	30.30	769.6	61	16.1	88	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy... ...	
Baltimore, Maryland	30.28	769.1	30.33	770.4	46	7.8	84	NW	5	2.2	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Barnegat, New Jersey	30.28	769.1	30.30	769.6	43	6.1	92	N	16	7.2	.....	.....	10s	.....	N	0.06	1.5	Cloudy.....	
Bismarck, Dakota	28.06	712.7	29.92	760.0	2	—16.7	86	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.69	728.7	29.99	761.7	64	17.8	94	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Boise City, Idaho	26.93	684.0	29.89	759.2	52	11.1	35	SE	20	8.9	.....	0	8s	.....	SW	0	0	Cloudy.....	
Boston, Massachusetts	30.22	767.6	30.38	771.6	36	2.2	90	N	7	3.1	.....	1cs	2s	Calm	N	0.46	11.7	Fair..	
Brackettville, Texas	28.97	735.8	30.01	762.2	66	18.9	95	SE	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Breckenridge, Minnesota	28.94	735.1	30.00	762.0	18	— 7.8	100	SE	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Brownsville, Texas	30.16	766.1	30.20	767.1	73	22.8	90	S	3	1.3	.....	2k	0	S	.....	0.01	0.3	Clear.....	
Buffalo, New York	29.62	752.3	30.35	770.9	37	2.8	81	E	8	3.6	.....	.....	10s	.....	E	0.03	0.8	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.15	765.8	30.46	773.7	29	— 1.7	89	N	7	3.1	.....	.....	Fog	.....	N	0.10	2.5	Foggy.....	
Cairo, Illinois	29.82	757.4	30.22	767.6	53	11.7	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	56	13.3	100	Calm	0	0	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
Cape Henry, Virginia	30.24	768.1	30.26	768.6	50	10.0	100	NW	7	3.1	.....	.....	10n	.....	NW	0.54	13.7	Light rain...	
Cape Lookout, N. Carolina	30.26	768.6	30.28	769.1	58	14.4	100	E	8	3.6	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy.....	
Cape May, New Jersey	30.27	768.8	30.30	769.6	43	6.1	100	NE	14	6.3	.....	.....	10n	.....	NE	0.05	1.3	Light rain...	
Castroville, Texas	29.39	746.5	30.09	764.3	66	18.9	95	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
Cedar Keys, Florida	30.27	768.8	30.29	769.4	66	18.9	95	E	3	1.3	.....	0	1s	.....	Calm	0	0	Clear.	
Charleston, South Carolina	30.22	767.6	30.28	769.1	58	14.4	88	SW	2	0.9	.....	0	2s	.....	SW	0	0	Clear.	
Charlotte, North Carolina	29.40	746.7	30.22	767.6	53	11.7	93	NW	1	0.4	.....	.....	Fog	.....	Calm	0.48	12.2	Foggy.....	
Chattanooga, Tennessee	29.43	747.5	30.24	768.1	56	13.3	94	NE	1	0.4	.....	.....	Fog	.....	Calm	1.24	31.5	Dense fog....	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	39	3.9	31	W	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.52	749.8	30.22	767.6	43	6.1	83	Calm	0	0	.....	Haze	0	.....	.....	0	0	Hazy.....	
Cincinnati, Ohio	29.60	751.8	30.26	768.6	52	11.1	89	E	3	1.3	.....	.....	10s;fg	.....	Calm	Inap.	Inap.	Foggy	
Cleveland, Ohio	29.53	750.0	30.28	769.1	39	3.9	100	NE	4	1.8	.....	.....	Fog	.....	.....	0.49	12.4	Dense fog....	
Coleman City, Texas	28.31	719.1	29.97	761.2	60	15.6	94	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.39	746.5	30.24	768.1	50	10.0	93	NE	2	0.9	.....	.....	Fog	.....	Calm	0.40	10.2	Foggy.....	
Concho, Texas	28.24	717.3	29.90	759.4	63	17.2	67	SW	.....	.....	1	.....	10ks	.....	Calm	0	0	Cloudy.....	
Corsicana, Texas	29.66	753.4	30.12	765.0	63	17.2	94	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.55	750.6	30.21	767.3	38	3.3	91	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	54	12.2	21	SE	.....	.....	4	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Deadwood, Dakota	25.22	640.6	.....	.....	37	2.8	38	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.99	736.3	30.15	765.8	63	17.2	72	SW	12	5.4	.....	5c	2s	Calm	SW	0	0	Cloudy.....	
Denison, Texas	29.33	745.0	30.13	765.3	56	13.3	94	SW	5	2.2	.....	10cs	0	SW	.....	0	0	Cloudy.....	
Denver, Colorado	24.78	629.4	30.00	762.0	33	0.6	42	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.22	742.2	30.13	765.3	39	3.9	91	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Detroit, Michigan	29.62	752.3	30.32	770.1	35	1.7	90	E	4	1.8	.....	.....	10s;fg	.....	Calm	0.02	0.5	Cloudy.....	
Dodge City, Kansas	27.42	696.5	29.75	755.6	38	3.3	72	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dubuque, Iowa	29.48	748.8	30.22	767.6	34	1.1	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Duluth, Minnesota	29.35	745.5	30.06	763.5	28	— 2.2	88	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eagle Pass, Texas	29.37	746.0	30.09	764.3	68	20.0	95	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	30.27	768.8	30.34	770.6	32	0.0	79	N	13	5.8	.....	2c	0	W	.....	0.29	7.4	Clear	
Edinburg, Texas	.....	.....	.....	.....	71	21.7	90	S	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.57	751.1	30.31	769.9	42	5.6	83	E	2	0.9	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy.....	
Escanaba, Michigan	29.54	750.3	30.22	767.6	31	— 0.6	69	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy.....	
Florence, Arizona	28.53	724.6	30.13	765.3	56	13.3	69	Calm	0	0	.....	10cs	0	SW	.....	0	0	Cloudy.....	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.88	708.1	29.86	758.4	8	—13.3	88	NE	1	0.4	.....	10c	0	Calm	.....	0	0	Cloudy.....	
Fort Custer, Montana	26.61	675.9	.....	.....	28	— 2.2	77	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.30	642.6	30.26	768.6	51	10.6	72	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.56	750.8	30.11	764 8	43	6.1	92	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy.....	
Fort Grant, Arizona	25.29	642.4	30.09	764.3	52	11.1	67	E	7	3.1	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy.....	
Fort Griffin, Texas	28.85	732.8	30.13	765.3	53	11.7	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Keogh, Montana	27.11	688.6	.....	.....	4	—15.6	74	S	4	1.8	.....	0	2s	.....	Calm	0	0	Fair...	
Fort McKavett, Texas	27.86	707.6	29.75	755.6	63	17.2	94	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.87	733.3	29.09	761.7	48	8.9	78	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.... ...	
Fort Stevenson, Dakota	28.05	712.5	.....	.....	2	—16.7	86	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	31	— 0.6	79	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.84	757.9	64	17.8	78	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.18	766.6	30.22	767.6	66	18.9	100	Calm	0	0	.....	.....	Fog	.....	SW	0.01	0.3	Dense fog....	
Graham, Texas	29.06	738.1	30.11	764.8	58	14.4	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Threatening	
Grand Haven, Michigan	29.57	751.1	30.25	768.3	38	3.3	72	E	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.15	740.4	30.09	764.3	53	11.7	86	S	4	1.8	.....	0	5s	.....	SW	0	0	Fair...	
Indianapolis, Indiana	29.43	747.5	30.21	767.3	53	11.7	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianola, Texas	30.19	766.8	30.22	767.6	67	19.4	95	S	1	0.4	.....	0	5s	.....	S	0	0	Fair...	
Jacksboro, Texas	28.98	736.1	30.12	765.0	57	13.9	87	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Jacksonville, Florida	30.26	768.6	30.29	769.4	62	16.7	88	NE	1	0.4	.....	Haze	Fog	Calm	Calm	0.07	1.8	Foggy.....	
Keokuk, Iowa	29.50	749.3	30.14	765.5	40	4.4	91	E	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Key West, Florida	30.18	766.6	30.22	767.6	72	22.2	85	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.26	768.6	30.28	769.1	55	12.8	100	Calm	0	0	.....	.....	10n	.....	W	0.10	2.5	Light rain...	
Knoxville, Tennessee	29.25	742.9	30.26	768.6	56	13.3	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.45	11.4	Foggy.....	
La Crosse, Wisconsin	29.39	746.5	30.14	765.5	42	5.6	66	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	41	5.0	57	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair...	
Laredo, Texas	29.75	755.6	30.09	764.3	68	20.0	84	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Leavenworth, Kansas	29.21	741.9	30.07	763.8	45	7.2	92	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.82	757.4	30.18	766.6	60	15.6	94	SW	2	0.9	.....	2cs	0	W	.....	0	0	Fair...	
Los Angeles, California	29.67	753.6	30.02	762.5	46.0	7.8	62	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.63	752.6	30.19	766.8	53	11.7	86	N	3	1.3	.....	.....	10s;sme	.....	Calm	0	0	Cloudy.....	
Lynchburg, Virginia	29.56	750.8	30.25	768.3	49	9.4	93	SW	1	0.4	.....	.....	10s	.....	SW	0.41	10.4	Cloudy.....	
Madison, Wisconsin	29.17	740.9	30.18	766.6	40	4.4	82	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Marquette, Michigan	29.38	746.2	30.10	764.5	33	0.6	70	SW	32	14.3	.....	0	0	.....	.....	0	0	Clear.	
Mason, Texas	28.52	724.4	30.28	769.1	59	15.0	94	Calm	0	0	.....	0	5s	.....	SW	0	0	Fair...	
Memphis, Tennessee	29.83	757.7	30.17	766.3	61	16.1	100	S	4	1.8	.....	.....	Fog	.....	.....	0.20	5.1	Foggy.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.46	748.3	30.21	767.3	49	4.4	91	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Mobile, Alabama	30.23	767.8	30.27	768.8	60	15.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	30.04	763.0	30.28	769 1	62	16.7	88	S	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Morgantown, West Virginia	29.22	742 2	30.21	767.3	56	13.3	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.83	21.1	Dense fog	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	20	— 6.7	85	NE	15	7.2	.....	2c	0	NW	.....	0.15	3.8	Clear	
Nashville, Tennessee	29.66	753.4	30.19	766.8	61	16.1	88	Calm	0	0	.....	.....	10s	.....	Calm	0.57	14.5	Threatening	
New Haven, Connecticut	30.13	765.3	30.25	768.3	35	1.7	90	N	8	3.6	.....	5es	8s	N	N	0.70	17.8	Cloudy	
New London, Connecticut	30.27	768.8	30.32	770.1	40	4.4	82	N	8	3.6	.....	.....	10s	.....	Calm	0.53	13.5	Cloudy	
New Orleans, Louisiana	30.20	767.1	30.26	768.6	64	17.8	83	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.29	769.4	30.34	770.6	38.5	3.6	87	N	6	2.7	.....	.....	10s	.....	N	0.22	5.6	Cloudy	
New River, North Carolina	.....	.....	.....	.....	57	13.9	100	E	.....	.....	1	.....	10s	.....	SW	.....	.....	Cloudy	
New York, New York	30.16	766.1	30.34	770.6	44	6.7	67	N	8	3.6	.....	5ck	2s	SW	Calm	0.50	12.7	Fair	
Norfolk, Virginia	30.21	767.3	30.27	768.8	55	12.8	93	NW	8	3.6	.....	.....	Fog	.....	Calm	0.37	9.4	Foggy	
North Platte, Nebraska	27.07	687.6	29.79	756.7	21	— 6.1	86	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	29.10	739.1	29.14	740.1	33.0	0.6	100	Calm	0	0	.....	.....	10n	.....	Calm	2.39	60.7	Sleeting	
Omaha, Nebraska	28.91	734.3	30.03	762.7	38	3.3	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0.03	0.8	Dense fog	
Oswego, New York	30.08	764.0	30.41	772.4	36	2.2	90	NE	5	2.2	.....	0	8ks	.....	SE	0.31	7.9	Fair	
Pembina, Dakota	29.14	740.1	30.10	764.5	—12	—24.4	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.27	768.8	30.30	769.6	59	15.0	100	SE	1	0.4	.....	Haze	Fog	Calm	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.27	768 8	30.33	770.4	42	5.6	83	NE	8	3.6	.....	10es;k	c	W	.....	0.13	3.3	Cloudy	
Phœnix, Arizona	28.86	733.0	30.69	779.5	50	10.0	72	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Pike's Peak, Colorado	17.66	448.5	29.87	758.7	7	—13.9	54	NW	50	22.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	68	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.42	747.3	30.24	768.1	47	8.3	85	E	2	0.9	.....	0	8s	.....	E	0.11	2.8	Fair	
Port Huron, Michigan	29.63	752.6	30.33	770.4	34	1.1	90	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.29	769.4	30.34	770.6	35	1.7	70	N	6	2.7	.....	0	0	.....	.....	0.07	1.8	Clear	
Portland, Oregon	29.15	740.4	29.22	742.2	53.5	11.9	52	S	24	10.7	.....	.....	10n	.....	.....	2.11	53.6	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	57	13.9	94	N	2	0.9	.....	10k	0	Calm	.....	0.04	1.0	Cloudy	
Prescott, Arizona	24.86	631.4	30.22	767.6	33	0.6	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.23	767.8	30.25	768 3	64	17.8	94	NE	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Red Bluff, California	29.55	750.6	29.92	760.0	39.5	4.2	91	SE	15	6.7	.....	.....	10s	.....	.....	0.19	4.8	Cloudy	
Rio Grande City, Texas	29.95	760.7	30.16	766.1	68	20.0	90	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.73	755.1	30.38	771.6	36	2.2	90	SE	4	1.8	.....	.....	10s	.....	SE	0.08	2.0	Cloudy	
Roseburg, Oregon	28.85	732 8	30.40	772.1	48.5	9.2	67	S	20	8.9	.....	.....	10n	Calm	0	0.01	0.3	Light rain	
Sacramento, California	29.89	759.2	29.96	761.0	37	2.8	90	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.61	752.1	30.19	766.8	52	11.1	93	E	3	1.3	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
St. Paul, Minnesota	29.18	741.1	30.03	762.7	36	2.2	80	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	31	— 0.6	58	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.45	748.0	30.03	762.7	66	18.9	100	.....	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.96	761.0	30.04	763.0	46	7.8	92	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.59	751.6	30.29	769.4	39	3.9	91	E	12	5.4	.....	.....	10n;fg	.....	.....	0.51	13.0	Light rain	
Sandy Hook, New Jersey	30.32	770.1	30.35	770.9	41	5.0	82	N	16	7.2	.....	2c	8s	NW	NW	0.38	9.7	Fair	
San Francisco, California	29.87	758.7	29.94	760.5	49	9.4	78	SE	9	4.0	.....	0	8s	.....	Calm	0	0	Fair	
Santa Fé, New Mexico	23.36	593.5	29.89	759.2	23	— 5.0	42	SE	1	0.4	.....	.....	10n	.....	SE	0.02	0.5	Light rain	
Savannah, Georgia	30.20	767.1	30.30	769.6	62	16.7	83	SW	4	1.8	.....	1c	Fog	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.96	761.0	30.17	766.3	68	20.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.24	768.1	30.27	768.8	68	17.9	94	W	6	2.7	.....	8k	1s	W	Calm	0.04	1.0	Cloudy	
Socorro, New Mexico	25.57	649.5	29.64	752.8	42	5.6	66	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.54	750.3	30.22	767.6	46.5	8.1	84	NE	5	2.2	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Springfield, Massachusetts	30.24	768.1	30.38	771.6	38	0.6	89	N	2	0.9	.....	0	0	.....	.....	0.48	12.2	Clear	
Stockton, Texas	27.10	688.3	30.10	764.5	45	7.2	18	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.33	770.4	30.38	771.6	35	1.7	90	NE	12	5.4	.....	0	2s	.....	NE	0.22	5.6	Clear	
Toledo, Ohio	29.59	751.6	30.30	769.6	36	2.2	100	N	8	3.6	.....	.....	10n;fg	.....	.....	0.11	2.8	Light rain	
Tucson, Arizona	27.59	700.8	30.14	765.5	57	13.9	57	S	.....	.....	1	5ck	2s	S	S	0.05	1.3	Cloudy	
Umatilla, Oregon	28.99	736 3	29.46	748.3	52.0	11.1	60	SW	22	9.8	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.23	742.4	30.04	763.0	65	18.3	89	SE	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Vicksburg, Mississippi	29.98	761.5	30.24	768.1	65	18.3	100	S	6	2.7	.....	.....	Fog	.....	.....	0.11	2.8	Foggy	
Virginia City, Montana	24.08	611.6	29.56	750 8	29	— 1.7	56	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Visalia, California	29.62	752.3	30.01	762.2	30	— 1.1	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.20	767.1	30.32	770.1	45	7.2	92	N	7	3.1	.....	.....	10n	.....	Calm	0.15	3.8	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	91	NW	.....	.....	1	8c	0	W	.....	Inap.	Inap.	Fair	
Wilmington, North Carolina	30.18	766.6	30.26	768.6	59	15.0	94	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.45	646.4	29.81	757.2	33	0.6	70	SW	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Wood's Holl, Massachusetts	30.28	769.1	30.32	770.1	41	5.0	82	N	6	2.7	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Yankton, Dakota	28.71	729.2	30.05	763.3	32	0.0	69	S	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Yuma, Arizona	29.90	759.4	30.05	763.3	49	9.4	64	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.09	764.3	30.14	765.5	72	22.2	81	Calm	0	0	.....	0	8ks	.....	E	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	75	23.9	82	Calm	0	0	.....	5c	Haze	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I	29.96	761.0	30.04	763.0	77	25.0	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.92	760.0	29.92	760.0	80	26.7	87	E	.....	.....	2	5k	8ks	E	.....	0.010	0.25	⅜ cloudy	C. J. Hering.
Santiago de Cuba, W. I	30.08	764.0	30.11	764.8	74	23.3	76	NNE	3.6	1.6	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.05	763.3	30.10	764.5	—20.0	—33.9	.....	NW	18	8.0	.....	.....	10n	.....	N	0.17	4.3	Snowing	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,393 (?) ft., or 406 (?) m.; Bogota, 8,704.5 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 880.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549(?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.8 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,866 inches, or 47.14 millimeters; Boise City. 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis. 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.†	30.25‡	768.3‡			66	18.9	94	NE	0	0			Fog							Foggy	
Navy Yard, Portsmouth, N.H	30.14‡	765.5‡			31	— 0.6	89	NW	2	0.9			0							Clear	
Naval Hospital, Yokohama, Japan	30.07‡	763.8‡			37	2.8	49	NNW			1		0			0	0			Clear.	
Adams, Mare I'd., Navy Yard, Cal.	30.07‡	763.8‡			45	7.2	92	SE			3		5		SE					Fair	
Alaska, S. 18° 31′ W. 70° 58′.....*	29.87‡	758.7‡			74	23.3	81	E			1		5		NE			Long	SW	D. clouds	
Colorado, New York, N. Y.	30.29‡	769.4‡			41	5.0	??	N	9	4.0			8		N	0.38	9.7			Clear?	
Constitution, Fort de France, Martinique	29.94‡	760.5‡			75	23.9	86	ENE			5		5		E					Pleasant	
Enterprise. N. 37° 40′, E. 23° 56′.....	30.33‡	770.4‡			45	7.2	76	NNE			3		8		NE			Mod'ate		Raining	
Franklin, Off Navy Yard, Norfolk, Va.	30.28‡	769.1‡			57	13.9	94	NNE	6	2.7			10		NNE	0.3	8.			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	29.96‡	761.0‡			42	5.6	91	E	4.8	2.1			7		E	0	0			Cloudy	
Kearsarge, N. 18° 30′, W. 86° 45′..	30.10‡	764.5‡			79	26.1	78	ENE			4		5		NE			Mod'at.	ENE	Fair	
Lackawana, Honolulu, Sandwich Id's†	30.05‡	763.3‡			72	22 2	95	NE			2–4		10		NE					Cloudy	
Marion, N. 11° 35′, W. 40° 50′....	29.98‡	761.5‡			79	26.1	74	ENE			5		5		ENE	Ligh	Light	Mod'ate	ENE	Hazy	
Michigan, Erie, Pa.	30.28‡	769.1‡			40	4.4	73	NE			1		10		NE					Cloudy	
Monocacy, Shanghai, China..	30.20‡	767.1‡			41	5.0	74	ESE			1		0							Clear	
New Hampshire, Port Royal, S. C.	30.30‡	769.6‡			62	16.7	94	Calm	0	0			2		Calm	0	0			Clear	
Nipsic, N. 26° 37′, W. 68° 44′.....	30.26‡	768.6‡			74	23.3	68	E			3		10		E			Long	ESE	D. clouds	
Onward, Callao, Peru.....†	29.89‡	759.2‡			70	21.1	85	SE			2		2					Mod'at	W	Fair	
Palos, Tientsin, China.	30.15‡	765.8‡			31	— 0.6	89	NW			1		0							Clear	
Passaic, Washington, D. C.	30.34‡	770.6‡			45	7.2	76	NE			1		10							Raining	
Pensacola, Callao, Peru	29.87‡	758.7‡			70	21.1	95	SSE			1		2					Smooth		D. clouds	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.34‡	770.6‡			44	6.7	84	NNE			2		5		N	0	0			Fair	
Quinnebang, Villafranca, France	30.47‡	773.9‡			59	15.0	100	SW			1		0							Clear	
Ranger, Honolulu, Sandwich Id's.	30.04‡	763.0‡			73	22 8	76	NE			3		5		Calm					Fair	
Richmond. Hong-Kong, China.	30.04‡	763.0‡			65	18.3	94	E			2		10					Smooth		Cloudy	
Rio Bravo, Brownsville, Texas... †	30.29‡	769.4‡			69	20.6	95	SSE	1	0.4			2		SE	0.07	1.8			Fair	
Santee. Annapolis, Md	30.31‡	769.9‡			44	6.7	100	N			1		10			0.05	1.3			Drizzling	
Shenandoah, Montevideo, Uruguay...	29.93‡	760.2‡			72	22.2	62	NNE			3		0					Smooth		Clear	
St. Louis, League Island, Pa.	30.32‡	770.1‡			42	5.6	91	NW	3	1.3			10		NW	0.12	3.0			Cloudy	
Tennessee, New York Harbor, N. Y.	30.32‡	770.1‡			41	5.0	82	NE	8	3.6			5		NE	0.06	1.5			D. clouds	
Trenton, Villafranca, France	30.50‡	774.7‡			60	15.6	65	SE			2		1			0	0	Smooth		Blue sky	
Tuscarora. N. 13° 38′, W. 90° 04′.....	29.93‡	760.2‡			80	26.7	70	ENE			2		2		Calm			Smooth		Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.30‡	769.6‡			43	6.1	83	NE			1		8		NE					Fair	
Wabash, Boston, Mass.	30.32‡	770.1‡			34	1.1	79	NW	2	0.9			2			0	0			Fair	
Wachusett, Montevideo, Uruguay.†	30.47‡	773.9‡			72	22.2	62	NW			4		0					Mod'at.	NW	Clear	
Wyoming, Villafranca, France	30.47‡	773.9‡			57	13.9	41	SSW			1		0					Smooth	SW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 116 ft., or 35 meters, for which the *constant* reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, St. George's Channel, Eng.		30.50‡	777.0‡				SW			3				SW	0				W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford																			
Philadelphia, Pa.....†		30 34‡	770 6‡	41	5.0	82	NE			1		8		W				Cloudy.....	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent																			
Liverpool, Eng.....		30.81‡	782.6‡	49	9 4		SE			4		6		SE	0			Cloudy.....	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 50° 07', W. 24° 57'		29.93‡	760.2‡	50.4	10.2	72	WSW			1		10s		W		Con fused	S;WSW	Overcast....	H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 41° 31', W. 62° 11'		30.21‡	767.3‡	56.0	14.4	100	SW			6		10		SW	2h'rs	Mod'ate	SW	Drizzling....	S. Rislus.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.40‡	774.4‡				WNW			4		8		NW				Cloudy.....	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 28° 20', E. 120° 18'....†		30.10‡	764.5‡	60	15.6		NE			4		8s		NE	0	Smooth	NE	Misty.....	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall, or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			E. LeLack.
S. S. City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Zealandia, R. C. Ghest. S. 30° 33', E. 177° 03'?		30.00†	762.0†				N			4				E		smooth	E	Overcast	

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

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Adele Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 22° 27', W. 3° 27' ?		30.00‡	762.0‡	81	27.2		E			2		0				Smooth	E	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 8, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.41	772.3				NE			1		0			0	0	Clear.	
Nemours			30.44	773.2	59.5	15.3	83	N			1		0			0	0	Clear	Kesxuche.
Algiers			30.49	774.4	56.5	13.6	55	NNE			2		0			0	0	Clear.	Tourilière.
La Calle			30.46	773.6	56.7	13 7	82	NNE			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.51	775.0															Gau.
Saida			30.48	774.1															Herbin.
Tebessa																			
Geriville			30.48	774.2	42.1	5.6	81	NW			2		9			0	0	Covered.	Watrin.
Laghouat								SE			1		0			0	0	Clear.	Brugniaux.
Biskra			30.50	774.7	50.4	10.2	50	NNW			1		2			0	0	Fair	Bertrand.
			30.45	773.5	60.8	16.0	69	NW			1		9			0	0	Covered	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	29.96	761.0	30.55	775.9	32.4	0.2	85	W			3		2			0	0		Prof. Ivan Stozir
Cracow, I. R. Observatory	29.64	752.8	30.45	773.4	32.7	0.4	89	WSW	11.2	5.0			10			0	0		Dr. Wierzbicki.
Eperies	29.42	747.3	30.35	770.9	34.0	1.1	83	NW			1		4cs			0	0		Julius Mikolik.
Gratz	29.22	742.2	30.55	776.0	30.6	— 0.8	78	S			1		0			0	0		Andreas Rospini.
Hermannstadt	28.81	731.7	30.32	770.1	31.6	— 0.2	92	W			4		9			0	0		Prof. A. Gottschling
Kremsmünster	29.12	739.6	30.54	775.7	31.5	— 0.3	87	Calm			0		1			0.020	0.5		Prof. C. Wagner.
Lemberg	29.19	741.5	30 23	767.9	32.4	0.2	92	W			2		10			0.055	1.4		Dr. T. Stanecki.
Pola	30.36	771.2	30.48	774.2	45.0	7.2	68	WNW			1		0			0	0		I.R.Hydrographic Office
Szathmar	29.90	759.4	30.39	771.9	33.4	0.8	96	W			4		6			0.256	6.5	Snowing	Pet. Pancsics, S. J.
Szegedin	30.16	766.1	30.46	773.6	35.1	1.7	73	Calm			0		3			0	0		Karl Stancel.
Trieste	30.40	772.2	30.50	774.8	39.4	4.1	79	Calm			0		0			0	0	Clear.	P. Busin.
Vienna	29.78	756.4			37.6	3.1		WNW			2					0	0		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels	30.39	771.8	30.60	777.3	31.1	— 0.5	96	ESE			0		10			0	0	Light fog	Royal Observatory.
Furnes	30.59	776.9	30.61	777.5	29.8	— 1.2	97	S			1		10			0	0	Foggy	M. E. de Cae.
Maeseyck	30.49	774.5	30.62	777.7	33.3	0.7	86	SW			0		10			0	0	Foggy	M. Pierrot.

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er Lw'r 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.42	772.7	30.52	775.2	41.3	5.2	.....	W	1	0.4	.....	.....	1	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	30.50	774.7	30.52	775.2	44	6.7	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Misty	G.Carrick.
Armagh, (Observatory)	30.30	769.6	30.24	768.1	43.2	6.2	.....	S	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.57	776.5	34.8	1.6	.....	SE	13	5.8	.....	.....	10	.....	.....	.....	.....	Misty	John Hartnup.
Bolton (Sharples)	30.00	762.0	30.53	775.4	36.4	2.4	.....	SSE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.13	765.3	30.52	775.2	41.9	5.5	83	SW	.....	.....	2	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.81	757.2	29.84	757.9	81	27.2	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.50	774.7	30.60	777.2	36.5	2.5	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.47	773.5	38.6	3.7	.....	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.46	773.7	30.60	777.2	31.2	— 0.4	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	Geo. Stuart, Q. M. S'gt
Donaghadee	30.49	774.4	30.54	775.7	45	7.2	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.54	775.7	30.58	776.7	32	0.0	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.26	768.6	30.50	774.7	38.2	3.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.15	689.6	29.37	746.0	98.4	36.9	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.41	772.4	42	5.6	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.32	770.1	30.53	775.4	43.9	6.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.58	776.7	30.59	777.0	38	3.3	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Gloomy	G. T. Watson.
Greenwich (Royal Obs'y)	30.40	772.1	30.59	777.0	32.6	0.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	30.30	769.6	30.53	775.4	32.5	0.3	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Dr.S.E Hoskins, F.R.S.
Helston	30.61	777.5	30.73	780.5	41	5.0	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Very gloomy	M. P. Moyle.
Holyhead	30.48	774.2	30.54	775.7	43	6.1	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	30.25	768.3	30.56	776.2	33.1	0.6	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	30.55	776.0	30.59	777.0	33.0	0.6	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.29	769.4	30.56	776.2	37.5	3.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.26	768.6	30.34	770.6	57	13.9	.....	N	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.39	771.9	30.49	774.4	42	5.6	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.15	765.8	73.5	23.1	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.35	770.9	30.55	776.0	38.0	3.3	.....	ESE	.....	.....	2	.....	10	.....	.....	0.030	0.76	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.02	762.5	30.67	776.5	34.4	1.3	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.44	773.2	30.52	775.2	35.3	1.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	30.41	772.4	30.51	774.9	46	7.8	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.37	771.4	30.54	775.7	36	2.2	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.48	774.2	45	7.2	.....	WSW	11	4.9	.....	.....	2	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.07	763.8	30.14	765.5	32.6	0.3	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Serg't W. H. Lyne.
Sheffield	30.31	769.9	30.61	777.5	38.8	3.8	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.50	774.7	30.53	775.4	41.4	5.2	94	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.56	776.2	38.3	3.5	.....	SSE	8	3.6	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	31.4	— 0.3	.....	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.42	772.7	30.50	774.7	40	4.4	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.41	772.4	30.44	773.2	44.8	7.1	.....	SSE	19	8.5	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.58	751.3	29.62	752.3	67.0	19.4	60	W	10.6	4.7	.....	.....	9n	.....	.....	0.32	8.1	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.22	64 .6	.....	.....	84	28.9	.....	NW	.....	.....	2c	3k	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.38	670.0	.....	.....	58	14.4	.....	W	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.32	770	60.8	16.	.....	SE	.....	.....	Strong	.....	Slight	.....	.....	0	0	Dull	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.56	776.2	42.9	6.1	.....	SW	.....	.....	1	.....	10k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.94	760.6	80.4	26.9	56	SE	24.0	10.7	.....	0	6	.....	E	0.03	0.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.47	748.5	29.56	750.8	52.0	11.1	80	W	14	6.3	.....	.....	3	.....	.....	0.75	19.0	Showery	J. Youngclause
Monach Lt-house, Hebrides	.....	.....	30.42	772.7	45	7.2	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.37	771.4	.....	.....	.....	W	.....	.....	4	.....	10	.....	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.16‡	740.7‡	55	12.8	.....	W	.....	.....	3–0	8	.....	.....	.....	D. clouds	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 10′, W. 13° 05′	.....	.....	30.26	768.6	52	11.1	.....	SE	.....	.....	6	10	.....	5	ESE; NNE	Overcast	Capt. A. J. Brown
City of Cashmere, S. 49° 42′, W. 110° 5′	.....	.....	29.91‡	759.7‡	45.8	7.7	.....	SW	.....	.....	5	9	.....	.....	.....	Misty	Capt. W. M. Grieve.
Barque Commewyne, N. 29° 35′, W. 60° 30′	.....	.....	30.28‡	769.1‡	69	20.6	.....	E	.....	.....	4	3	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
S. S. Decapolis, N. 41° 02′, W. 29° 16′	.....	.....	29.89‡	759.2‡	49.5	9.7	.....	NNW	.....	.....	6–7	10	.....	.....	NW	Raining	.....
S. S Ethiopia, N. 54° 00′ W. 23° 00′	.....	.....	29.92	760.0	46	7.8	.....	W	.....	.....	3	9	.....	5	Confused	Threatening	Capt. Campbell.
Barque Fedalma, N. 38° 50′, W. 39° 00′	.....	.....	30.40	772.1	56	13.3	.....	NW	.....	.....	3	8	.....	4	NNW	D. clouds	Capt. H. L. Fox.
S. S. German, S. 29° 18′, E. 13° 35′	.....	.....	29.78‡	756.4‡	65	18.3	.....	SW	.....	.....	6	7	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 25° 50′, W. 77° 10′	.....	.....	30.20	767.1	74	23.3	.....	ENE	.....	.....	3	3	.....	3	E	D. clouds	.....
S. S. Strathleven, N. 14° 20′, E. 42° 20′	.....	.....	29.87‡	758.7.	76.0	24 4	.....	WSW	.....	.....	4	0	.....	.....	.....	Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C M. Dobson.

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

COSTA RICA SERIES.

By authority of the Minister of Foreign Affairs.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	L'w'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	60.4	15.8	81	SE			3	3ck;d		NE		0	0		Federico Maison.

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

DANISH SERIES.

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

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	L'w'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.
Copenhagen	30.26	768.6	30.31	769.8	37.2	2.9	100	NW			2		10					Foggy
Fanöe	30.43	772.8	30.45	773.3	38.7	3.7	100	W			4		10					Foggy
Godthaab (Greenland)																		
Stykkisholm (Iceland)	29.70	754.4	29.74	755.5	37.9	3.3	78	S			7		5					Raining
Thorshavn (Faröe)	29.83	757.7	29.87	758.6	47.5	8.6	96	SW			6		10					Rain & fog
Vestervig	30.24	768.2	30.35	771.0	40.3	4.6	97	WSW			4		1					

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

FRENCH SERIES.

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

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	L'w'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	Observer.
Alençon, Normal School	30.02	762.6	30.58	776.6	30.9	— 0.6	96	S			1		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.50	774.6	30.61	777.6	29.8	— 1.2	88	NE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.32	770.2	30.61	777.4	27.0	— 2.8	94	ESE			1					0	0	Foggy	Klein, Commandant.
Avignon, Normal School	30.45	773.4	30.58	775.4	37.4	3	50	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.00	761.9	30.60	777.1	29.5	— 1.4	91	SSE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.32	770.2	30.61	777.5	28.6	— 1.9	88	ESE			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.65	753.1	30.61	777.4	29.3	— 1.5		NE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.30	769.6	30.50	774.6	31.8	— 0.1	100	WSW			1					0	0	Foggy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.70	754.3	30.61	777.6	26.6	— 3	100	W			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.97	761.3	30.57	776.4	28.6	— 1.9	98	E			2		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.26	768.7	30.51	774.9	35.6	2.0	85	E			1		10		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.50	774.8	30.58	773.8	32.5	0.3	88	SE			1		8		SE	0	0	Very cloudy	M. Bietrin, Director.
Carcassonne, N. School	30.00	762.0	30.43	772.8	50.5	10.3	62	W			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.21	767.3	30.55	776.0	31.8	— 0.1		SE			1		10					Covered	Jadot, Director
Chartres, Normal School	29.99	761.7	30.61	777.4	25.7	— 3.5	20	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.10	739.0	30.56	776.3	26.2	- 3.2	100	NW			1		10			0	0	Dense fog	Alluard, Director.
Commercy, Normal School	29.68	753.8	30.61	777.6	29.5	— 1.4		E			1		10	E	E	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.34	745.2	30.48	774.2	50.0	10.0	48	N			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.79	756.6	30.61	777.6	30.2	— 1		SSW			1		8ku			0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.31	769.8	30.54	775.6	34.5	1.4	89	NE			1		5		NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	30.20	769.3	30.63	777.9	28.4	— 2	96	SE			2		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.58	751.4	30.55	776.0	25.7	— 3.5	60	NE			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.44	773.2	30.55	776.0	35.6	2.0	93	SE			1		10			0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.93	760.1	30.60	777.1	27.3	— 2.6	87	E			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.19	766.8	30.47	773.8	48.7	9.3	65	SW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.48	748.9	30.61	777.4	29.7	— 1.3	88	NW			1		10			0	0	Foggy	Barbier, Director.
Mont-Louis	25.14	638.6	30.46	773.6	40.1	4.5	57	S	9.4	4.2			0			0	0		M. Cave
Nice	30.11	772.5	30.45	773.3	54.0	12.2	70	E			2		1	SE	E	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.29	769.4	30.51	774.9	43.7	6.5	65	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.30	769.7			27.9	— 2.3	90	E			1		10			0	0		Marié Davy, Director.
Perpignan	30.36	771.2	30.48	774.1	46.0	7.8	75	SE	5.6	2.5			0			0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.74	577.6			31.5	— 0.3									N	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.44	747.7	30.60	777.1	25.2	— 3.8		N					10	NE	NE	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	25.46	646.6			30.2	4.0	38	SSW			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.52	775.1	30.55	775.9	33.8	1.0	89	ENE			3		10	ENE	ENE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.50	774.6	30.58	776.8	28.6	— 1.9	92	SSE			1		10			0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.50	774.6	30.53	775.4	34.3	1.3	75	SSE			2		10	SSE	SSE	0	0	Covered	Lt. Hercouet, Director
Saint Maur (near Paris)	30.43	772.9	30.60	777.1	28.8	— 1.8	91	SE			1		10			0	0		E. Renou, Director.
Tarbes, Normal School	29.35	745.4	30.46	773.7	48.2	9	73	S			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.80	757.0	30.54	775.6	31.8	— 0.1	100	E			1		10			0	0	Foggy	M. Julier Mercadier.
Tours	30.37	771.3	30.56	776.3	28.4	— 2.0		E			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.07	763.8	30.56	776.3	26.2	— 3.2	91	SE			1		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.86	758.5	30.63	778.1	27.5	— 2.5	94	SE			1					0	0	Misty	Nicot, Director.
Sub-Series.																			
Fort de France, Martinique	29.85	758.2	29.88	758.9	75.2	24										0.98	25.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.18	766.5	30.21	767.2	44.1	6.7	91	NE	5.4	2.4			10n			0.059	1.5	Raining	Marc Dechevrens.

Note.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.72	754.8	30.60	777.1	30.9	— 0.6	86	S			2		10ks			0.012	0.3		Prof. Dr. Hoh.
Berlin	30.34	770.5	30.52	775.2	32.0	0.0	85	NW			4		10					Rain & snow	Prof. Dr. Arndt.
Breslau	29.94	760.4	30.48	774.1	32.7	0.4	90	WNW			5		10			0.013	0.34		Royal University Obs'y.
Carlsruhe	30.13	765.2	30.58	776.8	34.5	1.4	77	NE			0		10	E		0	0		Albert Senz.
Cassel	29.98	761.4	30.59	777.0	34.3	1.3	86	SSW			2		10	SW		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.31	769.9	30.70	779.7	32.7	0.4	73	NE			1		10			0	0		Physical Society.
Friedrichshafen	29.07	738.3	30.60	777.2	30.9	— 0.6	69	SE			1		10	NE		0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.46	773.7	30.53	775.5	34.2	1.2	96	WNW			2		10			Inap.	Inap.	Foggy	Dr. Reinhold Kleeman.
Kiel	30.47	774.0	30.49	774.4	37.4	3.0	90	WSW			2		10			0.010	0.25		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.1	36.1	2.3	82	NW			8		10			0	0		Prof. E. Luther.
Köslin			30.53	770.3	32.2	0.1		NW			4		4			0	0		H. Müller.
Leipsic Observatory	30.15	765.8	30.60	777.2	32.7	0.4	83	WSW			2		10	W		0.071	1.8	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.33	770.3	30.56	776.2	35.1	1.7	85	W			3		10ks	W		0	0		Dr. Assmann.
Memel	29.89	759.2	29.94	760.4	36.5	2.5	84	WNW			6–7		9n						Reinbrecht & Issermann.
Munich (München)	28.64	727.6	30.54	775.7	28.4	— 2.0	94	SE			1		10			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.16	766.0	30.17	766.4	34.7	1.5	87	W			5		9			0	0		A. Lothes.
Neustadt (Palatinate)	30.04	763.0	30.58	776.6	33.1	0.6	94	NE			1		10			0	0		Reallehrer Dickmether.
Posen	30.11	764.9	30.42	772.7	32.5	0.3	89	W			4		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.04	762.9	30.63	778.0	3 .0	— 1.1	94	NE			1		10			0	0	Foggy	Imp. University Observatory.
Stuttgart	29.59	751.6	30.60	777.7	32.9	0.5	87	E			1		10			0	0	Hazy	Prof. Dr. Schoder.
Thorn	30.19	766.8	30.38	771.7	31.8	— 0.1	85	NW			4		9			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	29.02	737.2	30.63	778.1	29.3	— 1.5	94		0.7	0.3			10			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.41	772.5	30.44	773	34.2	1.2	100	WNW			3		10s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.82	757.3	30.2 2	767.5	49.5	9.7		N			2.0		5					½ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.92	760.0	29.97	761.3	72.8	22.7	74	WSW	7	3.1			0			0	0	Blue sky	
Deesa	29.45	747.9	29.92	760.1	77.7	25.4	29	W	7.3	3.3			0			0	0	Blue sky	
Bombay	29.83	757.9	29.88	758.8	77.5	25.3	81	NW	12	5.4			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.6	29.85	758.3	83.8	28.8	17	E	5	2.2			0			0	0	Blue sky	
Belgaum	27.34	694.6	29.86	758.5	80.6	27.0	33	E	2	0.9			0			0	0	Blue sky	
Lahore	29.10	739.1	29.87	758.8	58.6	14.8	59	Calm	0.4	0.2			4			0	0	Misty	
Roorkee	28.92	734.6	29.86	758.4	59.8	15.4	71	N	2.4	1.1			7			0	0	D. clouds	
Agra	29.28	743.7	29.83	758.4	69.7	20.9	44	Calm	3.1	1.4			0			0	0		
Nagpur	28.82	731.9	29.86	758.5	77.9	25.5	24	Calm	1.4	0.6			0			0	0	Blue sky	
Jubbulpore	28.52	724.3	29.92	760.0	65.4	18.6	31	Calm	1.1	0.5			0			0	0	Blue sky	
Lucknow	29.46	748.4	29.85	758.3	65.6	18.7	38	NW	0.8	0.4			0			0	0	Blue sky	
Allahabad	29.54	750.3	29.86	758.6	63.3	17.4	65	Calm	2.8	1.2			0			0	0	Blue sky	
Patna	29.65	753.1	29.84	757.9	67.2	19.6	64	W	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.77	705.2	29.85	758.3	58.3	14.6	95	W	6.0	2.8			0			0	0	Blue sky	
Cuttack	29.77	756.1	29.85	758.2	70.3	21.3	59	WNW	0.6	0.3			0			0	0	Blue sky	
Jalcutta (Alipore)	29.80	757.0	29.83	757.6	64.5	18.1	61	W	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.41	747.0	29.81	757.2	66.7	19.3	69	W	1.5	0.7			0			0	0	Blue sky	
Chittagong	29.76	755.8	29.85	758.2	69.6	20.9	73	Calm	1.0	0.4			2			0	0	Misty	
Sibsagar	29.49	749.0	29.84	757.8	64.7	18.2	74	ENE	1.3	0.6			10	W	W	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.08	763.9	30.51	774.9	41.4	5.2	39	Calm	0	0			0			0	0		Prof. Giovanni Clodig.
Milan	29.97	761.2	30.52	775.3	27.9	— 2.3	94	SW			2		0			0	0		Prof. Schiaparelli.
Padua	30.41	772.4	30.53	775.4	31.5	— 0.3	74	NNE	1.3	0.6			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.55	750.5	30.49	774.5	28.6	— 1.9	77	NW	0	0			0			0	0		Prof. P. F. Denza.
Genoa	30.26	768.5	30.46	773.6	52.9	11.6	64	SE	1.8	0.8			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.50	723.8	30.49	774.5	38.8	3.8	51	W			2		0			0	0		Prof. D. C. Bruno.
Pesaro	30.44	773.2	30.49	771.4	34.3	1.3	85	NW	6.9	3.1			0			0	0		Prof. Luigi Guidi.
Florence	30.21	767.4	30.49	774.4	38.3	3.5	85	E			2		0			0	0		Cav. F. Meucci.
Leghorn	30.38	771.7	30.47	774.0	51.3	10.7	60	NE	3.1	1.4			4			0	0		Prof. P. Monte.
Rome	30.25	768.3	30.43	773.0	48.0	8.9	40	N	0	0			0			0	0		Prof. P. S. Ferrari
Lecce	30.07	763.8	30.34	770 5	51.3	10.7	52	NW	18.6	8.3			3	N		0	0		Prof. C. De Giorgi
Cosenza	29.48	748.9	30.41	772 8	48.2	9 0	71	SE	0.7	0.3			0			0	0		Prof. D. Conti.
Cagliari	30.23	767.7	30.43	772.8	52.5	11.4	49	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	30.18	766.0	30.44	773 2	53.2	11.8	51	ENE	5.6	2.5			4			0	0		Prof. G. Ciacciatore.
Syracuse	30.32	770.1	30.37	771.3	53.1	11.7	57	E	7.4	3.3			1	WNW		0	0		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.87	758.7	30.41	772.5	51.8	11.0	39	NW	0	0			0			0	0		Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	36.4	2.4	82	NNE	9.2	4.1		0	0			0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	45.0	7.6	72	NE	1.7	0.8			10n			0.090	2.29	Light rain.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	33.5	0.8	82	WNW	4.9	2.2		0	0			0	0	Clear	The Staff.
Wakayama	30.13	765.3	30.18	766.6	35.6	2.0	84	ENE	6.3	2.8			0			0	0	Clear	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.16	639.0	30.34	770.7	44.6	7.0	58	W			1	0	0			0	0	Fine	Prof. L. Perez.
Leon	24.51	622.5	30.35	770.9	48.6	9.2	79	N			1	0	0			0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.78	756.3	30.04	763.0	64.8	18.2	94	E			2	0	0			0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.16	588.3	30.39	772.0	41.9	5.5	82	Calm	0	0		0	0			0	0	Fine	The Staff.
Morelia	24.04	610.5			57.6	14.2	70	N			5	0	0			0	0	Clear	M. Fena, M. D.
Pabellon (Aguascallentes)	24.05	610.9	30.17	766.4	44.1	6.7	75	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.59	599.2	30.61	777.4	40.8	4.9	61	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.33	618.0	30.54	775.8	42.8	6.0	53	E			1	0	3		E	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.14	765.5	30.15	765.8	66.7	19.3	92	N			1	1	3	NE	N	0.53	13.6	Threatening	Prof. M. M. Chàzaro.
Vera-Cruz	30.13	765.4	30.16	766.1	68.9	20.5	91	Calm	0	0		3k	0			0	0	Foggy	Prof. J. Rossell
Zacatecas																			J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.62	777.8	30.62	777.8	32.7	0.4		SE			3					0	0		
Groningen	30.51	775.0	30.59	777.0	38.1	3.4		W			0					0	0		
Helder	30.59	777.0	30.59	777.0	37.8	3.2		SSW			0					0	0		
Hellevoetsluis	30.60	777.3	30.60	777.3	33.4	0.8	85	Calm											
Utrecht	30.57	776.4	30.62	777.6	38.1	3.4	82	SSE			2		5			0	0	Cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.32	770.1	30.37	771.5	40.3	4.6	97	SE	8.9	4.0			10			0.638	16.2	Raining	
Brönö	30.00	761.9	30.04	762.9	33.8	1.0	90	Calm	0	0			10			0.039	1.0		
Christiana	29.99	761.8	30.15	765.7	30.6	— 0.8	98	E	0	0			10			0	0	Light fog	
Tromsö	29.87	758.7	29.91	759.8	25.2	— 3.8	84	SW	4	2			8			0	0		

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.47	748.5	30.52	775.2	45.0	7.2	66	ENE	1.8	0.8			4			0	0		Dr. A. M. R. dos Santos
Funchal (Maderia)	30.21	767.2	30.29	769.4	60.8	16.0	77	ESE	2.5	1.1			10			0.028	0.7		Capt. D. A. de Cunha.
Lisbon Observatory	30.14	765.6	30.52	775.1	48.6	9.2	75	NE	12.5	5.6			4	NNW		6	0		The Staff.
Ponta Delgada (Azores)	29.97	761.2	30.04	763.0	57.2	14.0	61	N	10.5	4.7			3			0.322	8.2		

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

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. [illegible] Sando, Com 'd't
Duque da Terceira				J. C. M. Cabrate, 1st Lt
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Maio, Cape Verd Id's			D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. St. Paul de Loando, Gulf of Guinea			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			D. clouds. 1 h'r rain-fall.	J. G. Felgo, 2nd Lieut.

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.63	752.5	29.65	753.0	15.4	— 9.2	97	SE	2	1			10						Capt. Sseliwerstow.
Astrakhan	30.10	764.4	30.01	762.3	26.1	— 3.3	98	S	2	1		10cp				Blank	Blank	Heavy clouds	Capt. Wisganow.
Barnaul	29.64	752.9	30.20	767.0	— 3.5	—19.7	88	NE	0	0			0						Meteorological Obs.
Dorpat	29.20	741.6	29.45	747.9	30.6	— 0.8	100	SSW	11	5			10m						Prof. Dr. Weihrauch.
Ekaterinburg	28.88	733.6	29.95	760.6	— 0.4	—18.0	90	NNW	4	2			1s						Meteorological Obs.
Irkutsk																			
Kasan	29.71	754.5	30.00	762.0	5.7	—14.6	89	SSE	2	1			10					Light snow	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.32	744.8	30.00	762.1	23.0	— 5.0	90	NNW	7	3			7cks,n						Physical Cabinet.
Krotkowo*	29.49	749.0	30.02	762.5	— 1.3	—18.5	77	SE	07	07			5						Cand. Fatjanow.
Lugan	29.68	753.9	29.90	759.5	17.1	— 8.3	88	NNW	4	2			10						Meteorological Obs.
Moscow	29.28	743.8	29.88	758.9	10.4	—12.0	85	N	7.8	3.5			10s						Meteorological Obs.
Nertchinsk	27.95	710.0	30.58	776.6	— 9.6	—23.1	76	NW	2	1			2					Light clouds	Meteorological Obs.
Nikolaiev	29.95	760.7	30.02	762.5	20.1	— 6.6	87	N	18	8			10n						Kurdakof.
Nukuss	29.74	755.3	29.98	761.6	27.3	— 2.6	96	NNW	4	2			10n						
Orenberg																			
Pekin (China)	30.34	770.6	30.48	774.2	21.9	— 5.6	33	NW	16	7			2cs						Physical Observatory.
St. Petersburg	29.58	751.2	29.59	751.6	22.1	— 5.5	98	SSE	2	1			10n					Light fog	Central Physical Obs.
Tashkend	28.37	720.5	30.00	762.0	36.0	2.2	94						10						Teich, A. M.
Tiflis	28.59	726.3	30.07	763.8	35.8	2.1	61	NW	9	4			3ks						Physical Observatory.
Vladivostock																			
Warsaw	29.81	757.2	30.26	768.5	31.5	— 0.3	89	WSW	20	9			8ks						Astronomical Obs.
Wilna	29.49	749.1	29.93	760.2	39.4	4.1	87	W	11	5			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.36	771.1	30.70	779.8	—18.4	—28.0	79	E	2	1			10						Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.38	771.6	30.49	774.4	49.3	9.6	42	WSW	2.4	1.06			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.45	773.3	30.50	774.8	50.2	10.1	58	SE	1.1	0.48		1	0	SW		0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.48	698.1			28.4	— 2.0	96	SW	3.9	1.76		0	0			0	0	Foggy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.24	717.2	30.58	776.8	41.0	5.0	88	E	1.5	0.67		0	8			0	0	Cloudy	The Staff.
Murcia. Met. Obs'y	30.36	771.2	30.52	775.1	59.0	15 0	63	SW	1.3	0.58		0	3			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.52	749.9	30.45	773.5	46.8	8.2	90	SE	2.5	1.1			10			0.016	0.4	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.08	764.1	30.16	765.8	68.8	20.4	91	Calm	0	0		0	8k;ks		ENE	0.024	0.6	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.81	757.6	29.85	758.3	80.6	27.0	76	E	0	0			3s		E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.34	770.7	30.44	773.2	59.7	15.4	62	ESE	14.3	6.4		0	8		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	77.0	25.0	77	E	12.6	5.62		3c	2k	E	E	0.220	5.75	Clear	EnriqueGadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.88	759.0	29.92	760.0	14.7	— 9.6		N			2		0			0	0		
Umea	29.91	759.7	29.96	761.0	27.0	— 2.8	83	N			4		0			0.071	1.8		
Hernosand	29.95	760.6	30.00	761.9	33.8	1.0	65	N			6		0			0.024	0.6		
Stockholm	29.78	756.5	29.96	761.0	39.9	4.4	74	NNW			4		9			0	0		
Wisby	29.85	758.1	29.91	759.6	39.9	4.4	74	WNW			7		5			0	0		
Sub-Series.																			
Upsala	29.82	757.5	29.91	759.7	39.0	3.9	83	NNW	13.9	6.2			6		NNW	0.134	0.34		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

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

SWISS SERIES.

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

Geneva	29.09	738.9	30.60	777.2	27.0	— 2.8	87	E			1		10			0	0	Foggy	The Observatory.
Zurich	28.86	733.0	30.60	777.1	26.6	— 3.0	80	E			1		10			0	0	Foggy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.2 mm.; Thermometer, —3.6 Cent.; Relative Humidity, +7 per cent

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

TURKISH SERIES.

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

Constantinople			30.17	766.2	33.8	1.0	100	W	2	1.0			10		WSW	0.772	19.6	Snowing	The Observatory.
Fao, Persian Gulf																			
Valona			30.25	768.4	49.1	9.5		NW			2		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.08	763.9	48.6	9.2	70	NW			3		10n		NW	0.42	10.7		Prof. C. V. A. van Dyck

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

CANADIAN SERIES.

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

Bathurst, N. B.	30.31	769.9	30.32	770.1	14.6	— 9.7		Calm	0	0						0	0	Clear	Hon. J. Ferguson.
Chatham, N. B.	30.34	770.6	30.40	772.1	13.1	—10.5	91	SW	1	0.4		2ck	1ks	SW		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.32	770.1	30.37	771.4	24.0	— 4.4	74	SW	5	2.2		2cs	2s			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.15	765.8	30.36	771.1	25.9	— 3.4	37	NE			1		10n			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B.																			H. A. Johnson.
Father Point, Quebec	30.39	771.9	30.41	772.4	25.8	— 8.4	94	SW	3.0	1.3			10s			0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	30.40	772.1	30.47	773.9	— 2.9	—19.4	100	N	1	0.4		3cs,ck	0	W		0	0	Fair	Prof. Harrison.
Fort Garry, Manitoba	28.82	732.0	29.71	754.6	9.0	—12.8	94	S	8	3.6		Haze	Haze			0	0	Hazy	James Stewart.
Granton, Ontario	29.10	739.1	30.24	768.1	36	2.2		Calm			0		10n			0	0	Cloudy	James Grant.
Halifax, N. S.	30.32	770.1	30.46	773.7	20.9	— 6.2	87	SW	1	0.4		0	0			0	0	Clear	A. Allison.
Hamilton, Ontario	29.96	761.0	30.35	770.9	35.9	2.2	94	E			1		10n			0.02	0.5	Light rain	Geo. Dickson, B. A.
Heart's Content, N. F.																			E. Weedon.
Kingston, Ontario	30.01	762.2	30.36	771.1	37.8	3.2	87	SE	4	1.8			10ks			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	30.28	769.1	30.32	770.1	23.4	— 4.8	91	NW	4	1.8		8k	0	NW		0	0	Fair	C. H. Rigby.
Montreal, Quebec	30 20	767.1	30.41	772.4	20.4	— 6.4	88	SE	5	2.2			10n			0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.36	771.1	30.40	772.1	— 0.8	—18.2	94	E			4		10			0	0	Cloudy	J. R. Nesson.
Norwood	29.57	751.1	30.30	769.6	33.0	0.6	100	SE	4	1.8			10s			0	0	Foggy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.58	751.3	30.30	769.6	33.0	0.6	95	E	2	0.9			10n		SE	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.54	750.3	30.32	770.1	34.7	1.5	89	Calm			0		10n			0	0	Foggy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.55	750.6	30.27	768.8	37.0	2.8	100	NE	8	3.6			Fog			0	0	Foggy	H. Morgan.
Port Stanley, Ontario	29.54	750.3	30.21	767.3	38.4	3.6	97	E	6	2.7			Fog			0.02	0.5	Foggy	M. Payne.
Quebec, Quebec	30.08	764.0	30.44	773.2	15.5	— 9.2	74	W			3	0	0			0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario																			W. H. McIntyre.
St. John, N. B.	30.28	769.1	30.46	773.7	25	— 3.9	56	W	1	0.4		0	0			0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.53	750.0	30.28	769.1	36	2.2	85	SE	5	2.2			10s			0	0	Overcast	K. Stewart.
Stratford, Ontario	28.92	734.6	30.25	768.3	31.1	1.2	98	SE	6.0	2.7			Fog			0	0	Foggy	C. J. MacGregor, M. A.
Sydney, C. B.	30.29	769.4	30.38	770.4	17.2	— 8.2	88	S	1	0.4		6c	0	W		0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.91	759.7	30.31	769.9	36.4	2.4	100	E	8	3.6			Fog			Inap.	Inap.	Rain & fog	Magnetic Observatory
Windsor, N. S.	30.38	771.6	30.48	774.2	11.0	—11.7	90	S	3	1.3		0	0			0	0	Clear	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.15	740.4	30.26	768.6	34.3	1.3	99	NE	6	2.7			10s			0.03	0.8	Overcast	Professor Wolverton.
Yarmouth, N. S.	30.39	771.9	30.46	773.7	23.7	— 4.6	89	E	2	0.9		0	0			0	0	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.02	762.5	30.29	769.4	15	— 9.4		W					10			Inap.	Inap.	Overcast	John Delany.
St. Pierre, N. F., Hôpital Maritime			30.18	766.6	25.5	— 3.6		W			2	cs	n			0	0	Cloudy	The Commandant.

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

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Amount. Lo'er 0-10.	Direction. Upper. From—	Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.21	767.3	30.46	773.7	19	— 7.2	100	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	
Alpena, Michigan	29.54	750.3	30.22	767.6	32	0.0	100	SE	4	1.8	.....	.....	Fog	.....	.....	0.02	0.5	Light fog.	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.98	736.1	30.12	765.0	59	15.0	94	E	7	3.1	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Atlantic City, New Jersey	30.33	770.4	30.35	770.9	42	5.6	91	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Augusta, Georgia	30.05	763.3	30.25	768.3	59	15.0	88	NE	4	1.8	.....	.....	Fog	.....	Calm	0.03	0.8	Dense fog	
Baltimore, Maryland	30.35	770.9	30.40	772.1	41	5.0	74	NE	7	3.1	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.32	770.1	30.34	770.6	41	5.0	90	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Bismarck, Dakota	27.72	704.1	30.58	776.7	21	— 6.1	85	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.66	728.0	29.96	761.0	62	16.7	100	SW	6	2.7	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Boise City, Idaho	26.84	681.7	29.80	756.9	36	2.2	61	NW	6	2.7	.....	0	8s	.....	NW	0	0	Fair	
Boston, Massachusetts	30.28	769.1	30.44	773.2	27	— 2.8	88	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Brackettville, Texas	28.95	735.3	30.00	762 0	61	16.1	94	E	5	2.2	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Breckenridge, Minnesota	28.72	729.5	29.74	755.4	31	— 0.6	89	SE	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.09	764.3	30.14	765.5	71	21.7	90	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.54	750.3	30.25	768.3	43	6.1	83	NE	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	30.12	765.0	30.44	773.2	28	— 2.2	66	SE	1	0.4	.....	0	0	.....	.....	0.01	0.3	Clear.	
Cairo, Illinois	29.63	752.6	30.02	762.5	60	15.6	88	Calm	0	0	.....	.....	Fog	.....	.....	0.97	24.6	Foggy	
Campo, California	27.54	699.5	30.11	764.8	38	3.3	91	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Cape Hatteras, N. Carolina	30.23	767.8	30.24	768.1	50	10.0	100	NE	12	9.8	.....	.....	10s	.....	NE	0.66	16.8	Cloudy	
Cape Henry, Virginia	30.31	769.9	30.32	770.1	43	6.1	92	N	14	6.3	.....	.....	10s	.....	NE	0.13	3.3	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	49	9.4	93	N	22	9.8	.....	.....	Fog	.....	Calm	0.25	6.3	Light fog	
Cape May, New Jersey	30.31	769.9	30.34	770.6	39	3.9	82	N	10	4.5	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Castroville, Texas	29.33	745.0	30.02	762.5	64	17.8	94	S	2	0.9	.....	0	8s	.....	W	0	0	Clearing	
Cedar Keys, Florida	30.18	766.6	30.20	767.1	64	17.8	94	NE	2	0.9	.....	0	5s	.....	Calm	0	0	Clear.	
Charleston, South Carolina	30.18	766.0	30.24	768.1	58	14.4	82	NE	5	2.2	.....	.....	10s	.....	NE	0.09	2.3	Cloudy	
Charlotte, North Carolina	29.41	747.0	30.23	767.8	51	10.6	93	NE	7	3.1	.....	.....	10s;sm	.....	NE;Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.30	744.2	30.10	764.5	58	14.4	94	E	4	1.8	.....	.....	10s	.....	SW	0.18	4.6	Cloudy	
Cheyenne, Wyoming	23.81	604.8	29.75	755.6	44	6.7	9	SW	4	1.8	.....	0	5s	.....	SE	0	0	Fair	
Chicago, Illinois	29.34	745.2	30.04	763.0	45	7.2	76	E	5	2.2	.....	.....	Fog	.....	Calm	0.21	5.3	Foggy	
Cincinnati, Ohio	29.43	747.5	30.07	763.8	56	13.3	87	SE	4	1.8	.....	.....	10s;fg	.....	SE;Calm	0	0	Cloudy	
Cleveland, Ohio	29.43	747.5	30.16	766.1	47	8.3	92	SE	10	4.5	.....	.....	10s;fg	.....	SE	0	0	Cloudy	
Coleman City, Texas	28.30	718.8	29.96	761.0	57	13.9	87	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.27	743.4	30.11	764.8	52	11.1	93	E	5	2.2	.....	.....	Fog	.....	Calm	Inap.	Inap	Foggy	
Concho, Texas	28.19	716.0	29.84	757.9	61	16.1	82	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.61	752.1	30.07	763.8	64	17.8	89	S	10	4.5	.....	0	5ks	.....	S	0	0	Fair	
Davenport, Iowa	29.34	745.2	29.98	761.5	46	7.8	92	E	4	1.8	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Dayton, Washington T'y	.....	.....	.....	.....	35	1.7	70	S	.....	.....	2	Haze	2s	Calm	W	0.40	10.2	Fair	
Deadwood, Dakota	24.90	632.4	.....	.....	50	10.0	65	SW	20	8.9	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky	
Decatur, Texas																			
Denison, Texas	29.23	742.4	30.02	762.5	57	13.9	94	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.55	623.6	29.77	756.1	46	7.8	26	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.99	761.7	43	6.1	92	SW	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Detroit, Michigan	29.47	748.5	30.16	766.1	37	2.8	100	NE	7	3.1	.....	.....	10n;fog	.....	Calm	0.09	2.3	Light rain	
Dodge City, Kansas	27.36	694.9	29.70	754.4	36	2.2	53	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.32	744.7	30.03	762.7	41	5.0	91	Calm	0	0	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Duluth, Minnesota	29.25	742.9	29.94	760.5	36	2.2	75	NE	6	2.7	.....	.....	10n	.....	NE	0.08	2.0	Light rain	
Eagle Pass, Texas	29.33	745.0	30.07	763 8	58	14.4	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.35	770.9	30.42	772.9	26	— 3.3	75	W	4	1.8	.....	2c	Haze	Calm	Calm	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	67	19.4	95	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.51	749.5	30.23	767.8	46	7.8	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.43	747.5	30.11	764.8	34	1.1	79	SE	6	2.7	.....	.....	Fog	.....	SE	0	0	Foggy	
Florence, Arizona	28.51	724.1	30.11	764.8	51	10.6	79	NE	2	0.9	.....	5cs	2ks	Calm	Calm	0	0	Fair	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.39	695.7	29.25	742.9	21	— 6.1	85	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Custer, Montana	26.33	688.8	.....	.....	43	6.1	43	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	42	5.6	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	30.00	762.0	53	11.7	100	NW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Fort Grant, Arizona	25.30	642.6	30.10	764.5	50	10.0	59	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.77	730.7	30.04	763.0	54	12.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	26.80	680.7	.....	.....	13	—10.6	61	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.83	706.9	29.76	755.9	53	11.7	93	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.94	760.5	40	4.4	82	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.69	703.3	.....	.....	20	— 6.7	85	NE	6	2.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	42	5.6	91	W	.....	.....	1	.....	10s	.....	W	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.26	717.8	29.78	756.4	66	18.9	89	S	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Galveston, Texas	30.11	764.8	30.16	766.1	65	18.3	94	Calm	0	0	.....	0	Fog	.....	S	0	0	Clear.	
Graham, Texas	28.95	735.6	30.03	762.7	45	7.2	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Grand Haven, Michigan	29.42	747.3	30.09	764.3	40	4.4	91	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.08	738.6	30.03	762.7	47	8.3	92	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.25	742.9	30.02	762.5	56	13.3	94	S	4	1.8	.....	.....	10n	.....	Calm	0.27	6.9	Light rain	
Indianola, Texas	30.13	765 3	30.16	766.1	64	17.8	94	S	2	0.9	.....	1c	0	SW	.....	0	0	Clear.	
Jacksboro, Texas	28.92	734.6	30.06	763.5	53	11.7	87	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.18	766.6	30.20	767.1	60	15.6	88	Calm	0	0	.....	2cs	Fog	Calm	Calm	0	0	Fair	
Keokuk, Iowa	29.33	745.0	29.94	760.5	50	10.0	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Key West, Florida	30.14	765.5	30.17	766.3	72	22.2	85	NE	11	4.9	.....	8k	0	E	.....	0	0	Cloudy	
Kittyhawk, North Carolina	30.27	768.8	30.30	769.6	48	8.9	100	NE	28	12.5	.....	.....	10s	.....	NE	0.79	20.1	Cloudy	
Knoxville, Tennessee	29.12	739.6	30.12	765.0	53.5	11.9	97	NE	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.24	742.7	29.98	761.5	41	5.0	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.19	665.2	30.34	770.6	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.72	754.9	30.06	763.5	65	18.3	89	S	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Leavenworth, Kansas	29.14	740.1	29.99	761.7	45	7.2	84	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.70	754.4	30.05	763.3	63	17.2	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.22	5.6	Foggy	
Los Angeles, California	29.78	756.4	30.13	765.3	49.0	9.4	93	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.43	747.5	29.98	761.5	60	15.6	94	SE	4	1.8	.....	.....	10n	.....	Calm	0.24	6.1	Heavy rain	
Lynchburg, Virginia	29.65	753.1	30.35	770.9	46	7.8	84	NE	3	1.3	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Madison, Wisconsin	29.00	736.6	30.00	762.0	41	5.0	91	E	4	1.8	.....	.....	Fog	.....	Calm	0.06	1.5	Dense fog	
Marquette, Michigan	29.33	745.0	30.05	763.3	43	6.1	75	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Mason, Texas	28.46	722.9	30.22	767.6	58	14.4	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Memphis, Tennessee	29.69	754.1	30.02	762.5	62	16.7	94	S	5	2.2	.....	.....	10s	.....	Calm	1.41	35.8	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.31	744.5	30.06	763.5	40	4.4	91	E	6	2.7			Fog			0	0	Foggy	
Mobile, Alabama	30.10	764.5	30.15	765.8	60	15.6	100	S	3	1.3			Fog			0	0	Foggy	
Montgomery, Alabama	29.93	760.2	30.16	766.1	62	16.7	88	S	4	1.8		0	5s		W	0	0	Fair	
Morgantown, West Virginia	29.18	741.1	30.18	766.6	49	9.4	78	Calm	0	0		5k	0	SW		0	0	Fair	
Mt. Washington, N. H.	24.02	610.1	30.38	771.6	26	— 3.3	76	NW	15	6.7		2c	0	Calm		0	0	Clear	
Nashville, Tennessee	29.53	749.8	30.06	763.5	60	15.6	94	Calm	0	0			10n		Calm	0.22	5.6	Heavy rain	
New Haven, Connecticut	30.29	769.4	30.42	772.7	28	— 2.2	88	NE	11	4.9		0	Haze		Calm	0	0	Fair	
New London, Connecticut	30.35	770.9	30.40	772.1	30	— 1.1	78	N	8	3.6		0	1s		Calm	0	0	Clear	
New Orleans, Louisiana	30.11	764.8	30.17	766.3	63	17.2	83	Calm	0	0			Fog		Calm	0	0	Foggy	
Newport, Rhode Island	30.34	770.6	30.40	772.1	30	— 1.1	89	N	5	2.2		0	0			0	0	Clear	
New River, North Carolina																			
New York, New York	30.23	767.8	30.42	772.7	36	2.2	62	N	6	2.7		0	Haze		Calm	0	0	Hazy	
Norfolk, Virginia	30.26	768.6	30.32	770.1	44	6.7	92	NW	12	5.4			Fog		Calm	0.11	2.8	Foggy	
North Platte, Nebraska	26.90	683.2	29.46	748.3	46	4.4	31	NW	16	7.2		5c	0	Calm		0	0	Fair	
Olympia, Washington Ter.	29.54	750.3	29.58	751.3	29.5	— 1.4	94	E	1	0.4		0	0			1.23	31.2	Clear	
Omaha, Nebraska	28.80	731.5	29.92	760.0	37	2.8	90	S	8	3.6			Fog		Calm	0.01	0.3	Foggy	
Oswego, New York	30.01	762.2	30.34	770.6	42	5.6	74	S	7	3.1			10s		Calm	0	0	Cloudy	
Pembina, Dakota	28.79	731.3	29.68	753.9	8	—13.3	100	SE	6	2.7			10s		Calm	0	0	Cloudy	
Pensacola, Florida	30.15	765.8	30.18	766.6	63	17.2	100	SE	2	0.9		4k	Fog	SW	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.35	770.9	30.40	772.1	34	1.1	90	NE	12	5.4			10s		Calm	0	0	Cloudy	
Phœnix, Arizona	28.84	732.5	30.64	778.2	56	13.3	75	E	3	1.3		0	5ks		Calm	0	0	Fair	
Pike's Peak, Colorado	17.54	445.5	29.74	755.4	14	—10.0	64	W	85	38.6		2cs	0	Calm		0	0	Clear	
Pilot Point, Texas	29.26	743.2	30.09	764.3	54	12.2	93	W					Fog			0	0	Foggy	
Pioche, Nevada					35	1.7	61	S	16	7.2		Haze	8s	Calm	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.40	746.7	30.22	767.6	45	7.2	84	NE	5	2.2			10s		E	0	0	Cloudy	
Port Huron, Michigan	29.52	749.8	30.20	767.1	36	2.2	100	NE	6	2.7			Fog		Calm	0.04	1.0	Foggy	
Portland, Maine	29.34	745.2	30.40	772.1	28	— 2.2	66	Calm	0	0		0	0			0	0	Clear	
Portland, Oregon	29.54	750.3	29.61	752.1	37.5	3.1	86	SW	12	5.4			9s		SW	0.52	13.2	Threatening	
Portsmouth, North Carolina					51	10.6	93	NE	25	11.2			10c		Calm	0.41	10.4	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	52	11.1	35	S				1	0		Calm	0	0	Fair	
Punta Rassa, Florida	30.21	767.3	30.23	767.8	64	17.8	94	NE	6	2.7		1c	1ks	Calm	Calm	0	0	Clear	
Red Bluff, California	29.55	750.6	29.91	759.7	40.5	4.7	82	SE	13	5.8		0	2s		S	0.36	9.1	Fair	
Rio Grande City, Texas	29.92	760.0	30.13	765.3	62	16.7	94	E				1	0			0	0	Clear	
Rochester, New York	29.63	752.6	30.27	768.8	42	5.6	91	SE	5	2.2			10s		SE	0	0	Cloudy	
Roseburg, Oregon	29.18	741.1	29.76	755.9	35	1.7	90	S	1	0.4			10s		Calm	1.39	35.3	Cloudy	
Sacramento, California	29.94	760.5	30.01	762.2	43	6.1	92	S	10	4.5		0	5s		Calm	0.15	3.8	Fair	
St. Louis, Missouri	29.42	747.3	29.99	761.7	51	10.6	93	Calm	0	0			Fog			0.32	8.1	Foggy	
St. Paul, Minnesota	29.07	738.4	29.90	759.4	38	3.3	90	SE	12	5.4			10s		SE	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.37	644.4	29.70	754.4	41	5.0	49	SE	14	6.3			10s		Calm	0	0	Threatening	
San Antonio, Texas	29.45	748.0	30.03	762.7	65	18.3	94	SW	4	1.8			10ks		S	0	0	Cloudy	
San Diego, California	30.09	764.3	30.17	766.3	52	11.1	93	NE	3	1.3			8s		W	0	0	Cloudy	
Sandusky, Ohio	29.49	749.0	30.18	766.6	40	4.4	100	E	6	2.7			Fog		Calm	0.02	0.5	Foggy	
Sandy Hook, New Jersey	30.37	771.4	30.41	772.4	35	1.7	90	NE	16	7.2			10s		E	0	0	Cloudy	
San Francisco, California	29.97	761.2	30.03	762.7	47	8.3	85	NW	5	2.2		0	0			0.29	7.4	Clear	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	22	—5.6	57	NE	3	1.3		0	5s		NE	Inap.	Inap.	Fair	
Savannah, Georgia	30.13	765.3	30.22	767.6	59	15.0	94	E	5	2.2			Fog		Calm	0	0	Foggy	
Shreveport, Louisiana	29.86	758.4	30.07	763.8	66	18.9	89	SW	6	2.7			10s		Calm	0.01	0.3	Cloudy	
Silver City, New Mexico																			
Smithville, North Carolina	30.23	767.8	30.27	768.8	52	11.1	93	NE	6	2.7			10s		Calm	0.38	9.7	Cloudy	
Socorro, New Mexico	25.53	648.4	29.59	751.6	36	2.3	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Springfield, Illinois	29.35	745.5	30.01	762.2	54	12.2	90	SE	4	1.8			10ks; fg		SE;Calm	0.02	0.5	Foggy	
Springfield, Massachusetts	30.31	769.9	30.45	773.4	25	— 3.9	75	NE	2	0.9		0	0			0	0	Clear	
Stockton, Texas	7.12	688.8	30.12	765.0	45	7.2	18	SW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass.	30.38	771.6	30.44	773.2	34	1.4	70	N	8	3.6		0	0			0	0	Clear	
Toledo, Ohio	29.44	747.8	30.14	765.5	38	3.3	100	NE	7	3.1			Fog			0.02	0.5	Foggy	
Tucson, Arizona	27.59	700.8	30.14	765.5	52	11.1	60	SW				1	2c	SW	E	0	0	Fair	
Umatilla, Oregon	29.28	743.7	29.78	756.4	34.0	1.1	90	W	18	8.0			10ks		W	0	0	Cloudy	
Uvalde, Texas	29.20	741.7	30.01	762.2	60	15.6	94	Calm	0	0			Fog		Calm	0	0	Dense fog	
Vicksburg, Mississippi	29.66	758.4	30.12	765.0	63	17.2	80	SW	8	3.6			10s		SW	0.01	0.3	Cloudy	
Virginia City, Montana	23.65	600.7	29.13	739.9	37	2.8	63	SW	23	10.3		0	0			0	0	Clear	
Visalia, California	29.66	753.4	30.04	763.0	46.5	8.1	92	E	3	1.3		0	8s		Calm	0.06	1.5	Fair	
Washington, D. C.	30.26	768.6	30.38	771.6	41	5.0	78	NE	7	3.1			10s		NE	0.14	3.6	Cloudy	
Wickenburg, Arizona					49	9.4	93	NW				1	10s		W	0	0	Cloudy	
Wilmington, North Carolina	30.19	766.8	30.27	768.8	52	11.1	86	NE	8	3.6			10s		Calm	0.30	7.6	Cloudy	
Winnemucca, Nevada	25.35	643.9	29.71	754.6	32	0.0	79	SW	21	9.4			10n		Calm	0.03	0.8	Heavy snow	
Wood's Holl, Massachusetts	30.35	770.9	30.39	771.9	37	2.8	71	NE	1	0.4		5cs	0	SW		0	0	Fair	
Yankton, Dakota	28.55	725.2	29.90	759.4	25	— 3.9	62	NE	7	3.1			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.85	758.2	30.00	762.0	52	11.1	66	NE	2	0.9		8k	0	SW		0	0	Fair	
Sub-Series.																			
Bogota, U. S. Columbia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	30.06	763.5	30.11	764.8	73	22.8	81	Calm	0	0		0	8ks		SE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	82	Calm	0	0		8c	0	Calm		0	0	Fair	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	77	25.0	65												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	82	27.8	83	NE				3	5k	7ks	E	0.010	0.25	⅝ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.05	763.3	30.08	764.0	73	22.8	76	NNW	3.6	1.6			0	2s	N	0	0		Robert Mason
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.10	764.5	30.16	766.1	—38.0	—38.9		N	16	7.2		0	0			0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bruckettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4,800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15‡	765.8‡			66	18.9	94	SE	6	2.7			5		NW					Fair.	
Navy Yard, Portsmouth, N.H.	30.34‡	770.6‡			22	— 5.6	86	W	1	0.4			0							Clear.	
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡			36.2	2.3	80	NNW			1		0			0	0			Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.08‡	764.0‡			48	8.9	100	W			1		5		W					Fair	
Alaska, S. 18° 25′ W. 70° 46′	29.86‡	758.4‡			74	23.3	76	Calm			0		2					Long	SW	D. clouds	
Colorado, New York, N. Y.	30.35‡	770.9‡			33	0.6	100	NNE	10	4.5			2			0	0			Clear	
Constitution, Fort de France, Martinique	29.88‡	758.9‡			76	24.4	86	ENE			3		3		E					Clear.	
Enterprise, Piraeus, Greece	30.21‡	767.3‡			50	10.0	52	N			3		1		N			Mod'ate		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.34‡	770.6‡			46	7.8	92	NNE	10.8	4.8			10		NNE	0.14	3.6			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.05‡	763.3‡			46	7.8	84	Calm	0	0			1?		NW	0.313	7.95			Cloudy?	
Kearsarge, N. 20° 40′, W. 85° 45′	30.13‡	765.3‡			78	25.6	78	NE			3–4		2		NE			Smooth	NE	Fair	
Lackawana, Honolulu, Sandwich Id's†	30.06‡	763.5‡			71	21.7	85	NE			1–3		5		NE					Fair	
Marion, N. 9° 37′, W. 39° 25′	29.89‡	759.2‡			79	26.1	78	NE			5		1		E	0	0	Mod'ate cross	ENE	Clear	
Michigan, Erie, Pa.	30.21‡	767.3‡			45	7.2	61	SE			1		10		SE					Cloudy	
Monocacy, Shanghai, China	30.19‡	766.8‡			45	7.2	92	ENE			1		10							Raining	
New Hampshire, Port Royal, S. C.	30.20‡	767.1‡			61	16.1	100	NE	16	7.2			10		NE	0	0			Foggy	
Nipsic, N. 24° 20′, W. 67° 32′	30.12‡	765.0‡			76	24.4	73	E			4		5		E			Long rough	ESE	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡			70	21.1	85	SSE			2		2					Mod'ate	W	Misty	
Palos, Tientsin, China	30.14‡	765.5‡			31	— 0.6	79	NNW			2		5?							Cloudy?	
Passaic, Washington, D. C.	30.38‡	771.6‡			43	6.1	83	NE			1		10							Cloudy	
Pensacola, Callao, Peru	29.87‡	758.7‡			68	20.0	95	SSE			1		5					Smooth		D. clouds	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.39‡	771.9‡			37	2.8	71	NE			2		2			0	0			Fair	
Quinnebaug, Villafranca, France	30.44‡	773.2‡			56	13.3	69	E			1		0							Clear	
Ranger, Honolulu, Sandwich Id's.	30.05‡	763.3‡			72	22.2	80	NE			2		8		Calm					Cloudy	
Richmond, Hong-Kong, China	29.98‡	761.5‡			67	19.4	74	ENE			2		2					Smooth		Fair	
Rio Bravo, Brownsville, Texas	30.27‡	768.8‡			65	18.3	100	SE	2	0.9			0			0.01	0.3			Clear	
Santee, Annapolis, Md	30.39‡	771.9‡			39	3.9	91	NE			4		10		NE	0	0			Overcast	
Shenandoah, Montevideo, Uruguay	29.70‡	754.4‡			80	26.7	66	N			3		2		N			Mod'ate	N	Fair	
St. Louis, League Island, Pa.	30.37‡	771.4‡			36	2.2	90	ENE	4	1.8			10		E	0.05	1.3			Cloudy	
Tennessee, New York, N. Y.	30.28‡	769.1‡			47	8.3	92	NE	3	1.3			10		Calm	0	0	Mod'ate smooth		D. clouds	
Trenton, Villafranca, France	30.46‡	773.7‡			57	13.9	69	SE			2		2			0	0	Smooth		D. clouds	
Tuscarora, N. 13° 35′, W. 89° 55′	29.95‡	760.7‡			80	26.7	70	E			2		2		Calm			Smooth		Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.41‡	772.4‡			35	1.7	90	NE			2		2		NE					Clear	
Wabash, Boston, Mass.	30.44‡	773.2‡			25	— 3.9	87	NNW	3	1.3			5			0	0			Hazy	
Wachusett, Montevideo, Uruguay †	30.26‡	768.6‡			83	28.3	67	NW			4		2		NW			Mod'ate	NW	Fair	
Wyoming, Villafranca, France	30.46‡	773.7‡			57	13.9	69	ESE			1		2		SE			Smooth	SE	Clear	

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

UNITED STATES MARINE SERIES.

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

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

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

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks, N. 51° 44', W. 13° 40'..		30.33‡	770.4‡				SSW			6				SSW	0	Long	SSW	Cloudy	W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																			A. D. Air.
S. S. Sarmatian, A. D. Air																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford, Philadelphia, Pa.....†.		30.40†	772 .‡	35	1.7	90	NE			2		10		NE				Cloudy	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, Liverpool, Eng		30.78‡	781.8‡	50	10.0		SE			3		7			0			Cloudy	Wm. Shackford.
S. S. Ohio, Henry Morrison																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson, N. 51° 08', W. 17° 00'.....		30.07‡	763.8‡	53	11.7	86	SSE	31	13.9		10cs	8n	S	ESE		Mod'te	S;NW	Showery	
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 46° 27', W. 68° 49'.....		30.37‡	771.4‡	43.0	6.1	100	E			3		10		NE	0	Smooth	N	Hazy	S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.55‡	776.0‡				N			4		8		N				Cloudy	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer																			D. A. Joyce.
S. S. Gaelic, Davidson, N. 23° 10', E. 116° 45'....†.		30.02‡	762.5‡	64	17.8		ENE			3		ks		NE	0	Smooth	ENE	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S City of Tokio																			E. LeLack.
S. S. Colima, R. R. Searle																			F. S. Doane.
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Z alandia, R. C. Ghest. S. 26° 51′, W. 179° 28′		30 00‡	762 0‡				S			3				E		Smooth	S	Overcast	
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			J. Farmer & W. Apetan.
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 25° 09′, W. 3	° 40′	30.02‡	762.5‡	80	26.7		SE			4		*		SE		Smooth	SE	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON JANUARY 9, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.34	770.7				SW			1		1			0	0	Very fair	
Nemours			30.37	771.4	60.3	15.7	71	N			2		0			0	0	Clear	Kesxuche.
Algiers			30.40	772.1	57.2	14.0	58	NE			2		0			0	0	Clear.	Touriliere.
La Calle			30.39	772.0	55.8	13.2	75	WSW			2		7			0	0	Very cloudy	Foufrede.
Tunis																			Jacques
Sfax																			Gau.
Saida			30.45	773.3															Herbin.
Tebessa			30.41	772.5															
Geriville			30.43	772.8	44.4	6.9	62	N			2		9			0	0	Covered	Watrin.
Laghouat								N			1		0			0	0	Clear.	Brugniaux.
Biskra			30.45	773.4	48.6	9.2	55	SSE			2		7			0	0	Very cloudy	Bertrand.
			30.41	772.3	61.5	16.4	56	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.77	756.2	30.35	771.0	31.3	— 0.4	63	SW			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.49	749.0	30.31	769.8	34.2	1.2	72	N	0.9	0.4			10			0.020	0.5		Dr. Wierzbicki.
Eperies	29.23	742.4	30.15	765.8	34.0	1.1	79	N			3		9ks		SE	0	0		Julius Mikolik.
Gratz	29.04	737.6	30.37	771.3	31.3	— 0.4	66	SSW			3		0			0	0		Andreas Rospini.
Hermannstadt	28.58	726.0	30.09	764.3	28.9	— 1.7	82	NW			4		10			0	0		Prof. A. Gottschling
Kremsmünster	29.06	738.0	30.49	774.5	27.9	— 2.3	92	WNW			2		10			0	0		Prof. C. Wagner.
Lemberg	29.00	736.6	30.05	763.2	28.9	— 1.7	94	NE			3		10			0	0		Dr. T. Stanecki.
Pola	30.21	767.2	30.32	770.2	41.7	5.4	75	W			1		0			0	0		I.R.Hydrographic Office
Szathmar	29.66	753.3	30.11	764.7	34.5	1.4	93	NW			2		7			0.059	1.5		Pet. Pancsics, S. J.
Szegedin	29.91	759.6	30.20	767.1	36.7	2.6	77	NW			4		7			0	0		Karl Stancel.
Trieste	30.24	768.0	30.34	770.6	39.2	4.0	84	Calm			0		0			0	0	Clear.	P. Busin.
Vienna	29.59	751.6			33.8	1.0		W			5					0	0		I.R.Central Met. Ob'sy

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.34	770.7	30.56	776.1	33.3	0.7	86	E			0		10		E	0	0		Royal Observatory
Furnes	30.55	775.9	30.57	776.5	34.2	1.2	83	SE			2		8			0	0	Foggy	M. E. de Cae.
Maeseyck	30.45	773.3	30.57	776.5	32.9	0.5	100	W			0		10			0	0	Foggy	M. Pierrot.

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.26	768.6	30.36	771.1	38.4	3.6		S	11	4.9			0			0	0	Misty	W. Boswell.
Ardrossan	30.41	772.4	30.43	772.9	39	3.9		SSW			4		8					Overcast	G.Carrick.
Armagh, (Observatory)	30.17	766.3	30.41	772.4	38.8	3.8		S	15	6.7			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.50	774.7	34.2	1.2		SE	11	4.9			9					Overcast	John Hartnup.
Bolton (Sharples)	29.93	760.2	30.46	773.7	30.9	— 0.6		S					10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.07	763.8	30.47	773.9	34.4	1.3	85	SW			2		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.81	757.2	29.84	757.9	81	27.2		SE			1		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.45	773.4	30.55	776.0	30.9	— 0.6		SW			1		10					Overcast	H. Todd.
Cardington			30.61	777.5	31.0	— 0.6		S			0–1		10					Foggy	John McLaren.
Chatham (School M. E.)	30.41	772.4	30.55	776.0	31.2	— 0.4		S			1		10					Overcast	Geo. Stuart, Q. M. S'gt
Dorchadee	30.39	771.9	30.44	773.2	40	4.4		SSW			3		10					Overcast	J. Mac Gowan.
Dover	30.50	774.7	30.54	775.7	36	2.2		SE			2		6					½ clouded	J. Costello.
Falmouth (Observatory)	30.22	767.6	30.46	773.7	42.6	5.9		ESE			3		10					Overcast	The Staff.
Fort Napier, Natal	27.48	698.0	29.68	753.9	68.3	20.2		NE			1		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.25	768.3	45	7.2		S			3		10			0.04	1.0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.22	767.6	30.42	772.7	38.0	3.3		SSE			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.51	774.9	30.52	775.2	35	1.7		WSW			1		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.37	771.4	30.55	776.0	31.1	— 0.5		E			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	30.25	768.3	30.48	774.2	37	2.8		ENE			2		8					Misty	Dr.S.E Hoskins, F.R.S.
Helston	30.55	776.0	30.68	779.3	46	7.8		E			2		8k			0	0	Gloomy	M. P. Moyle.
Holyhead	30.40	772.1	30.47	773.9	40	4.4		S			2		10					Misty	John Tilston.
Jersey	30.21	767.3	30.55	776.0	33.3	0.7		ESE			3		10					Misty	J. Fisher.
Kew (Observatory)	30.51	774.9	30.55	776.0	32.1	0.1		SSE					10					Misty	The Met'g'l Office.
Leicester (Museum)	30.27	768.8	30.54	775.7	30.4	— 0.9		NW			2		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.24	768.1	30.32	770.1	57	13.9		NE			1		2k					Blue sky	A. King.
Nairn	30.20	767.1	30.30	769.6	38	3.3		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.09	764.3	73.0	22.8		NE			0		8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.36	771.1	30.56	776.2	32.5	0.3		S			1		10			0.030	0.76	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.96	761.0	30.52	775.2	32.0	0.0		S			0–1		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.38	771.6	30.46	773.7	41.6	5.3		ESE			1		10					Overcast	John Merrifield.
*Roche's Point	30.33	770.4	30.40	772.1	47	8.3		S			5		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.30	769.6	30.47	773.9	43	6.1		SE			3		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.26	768.6	37.2	2.9		S	12	5.4			0					Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.97	761.2	30.04	763.0	58.8	3.8		SW			4		9					Gloomy	Serg't W. H. Lyne.
Sheffield	30.25	768.3	30.54	775.7	33.4	0.8		SSW			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.44	773.2	30.47	773.9	34.5	1.4	86	W			1		10			0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.49	774.4	31.0	— 0.6		SSW	2	0.9			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss					31.3	— 0.4					2		10					Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.40	772.1	30.47	773.9	44	6.7		SE			4		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.27	768.8	30.30	769.6	47.2	8.4		SE	32	14.3			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.98	761.5	30.02	762.5	71.7	22.1	44	W	12.3	5.5		4c	6ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.68	677.7			65	18.3		NW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.24	768	59.9	15.5		SE			Strong		Slight			0	0	Dull	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.45	773.4	36.8	2.7		SW			2		9k			0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.79	756.7	29.98	761.4	80.2	26.8	60	SE	23.5	10.5		1	4		E	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.82	757.4	29.91	759.7	50.1	10.1	86	W	10	4.5			2			0.40	10.2	Fine	J. Youngclause
Monach Lt-house, Hebrides			30.22	767.6	44	6.7		S			7		10			0	0		
North Unst, Shetland Is.			30.27	768 8				S			3		10			0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9.	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia			29.53‡	750.0‡	49.8	9.9		WSW			1		8					D. clouds	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 30′, W. 10° 50′			30.27	768.8	52	11.1		SSE			6		10			4	SSE; NNE	Overcast	Capt. A. J. Brown
City of Cashmere, S. 50° 43′, W. 106° 45′			29.50‡	749.3‡	47.6	8.7		WNW			6		10					Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 31° 20′, W. 59° 25′			30.30	769.6	69	20.6		ESE			5		3					D. clouds	Capt. Jas. Buchan.
S. S. Decapolis, N. 41° 06′, W. 24° 49′			29.89‡	759.2‡	63.1	17.3		SSW			5		4			Confused	NW;N	Misty	
S. S. Ethiopia, N. 55° 15′ W. 14° 00′			29.97	761.2	52	11.1		S			5		10			4	Confused	Raining	Capt. Campbell.
Barque Fedalma, N. 30° 5′, W. 38° 55′			30.08	764.0	61	16.1		W			6		6			5	WNW	Misty	Capt. H. L. Fox.
S. S. German, S. 33° 31′, E. 17° 20′			29.83‡	757.7‡	63	17.2		SW			4		3					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 25° 50′, W. 77° 50′			30.10‡	764.5‡	73	22.8		E			2		5			2		D. clouds	
S. S. Strathleven, N. 17° 35′, E. 40° 30′			29.88	758.9‡	75.0	23.9		N			4		10					Overcast	Capt. C. W. Pearson. Capt. C M. Dobson.
S. S. Sunbeam																			

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
San José	26.18	665.0	29.90	759 4	63.0	17.2	80	SE			2	3d		E		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.6 mm., for an altitude of 1,146 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish plies.

DANISH SERIES.

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

Copenhagen	30.28	769.2	30.33	770.4	33.8	1.0	100	NW			2		10					Foggy	
Farde	30.41	772.3	30.43	772.8	40.5	4.7	100	NW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.65	753.2	29.70	754.3	40.6	4.8	71	SE			7		8						
Thorshavn (Farde)	30.04	763.0	30.08	763.9	45.0	7.2	76	SSW			4		10						
Vestervig	30.22	767.6	30.33	770.4	40.1	4.5	98	NW			2		1						

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

FRENCH SERIES.

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

Alençon, Normal School	29.97	761.3	30.52	775.3	28.4	— 2	96	E			1		10			0.004	0.1	Foggy	Collignon, Director.
Amiens, Normal School	30.43	773.0	30.55	776.0	32.7	0.4	92	ENE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.27	768.8	30.55	775.9	31.6	— 0.2	90	ESE			1					0	0	Foggy	Klein, Commandant.
Avignon, Normal School	30.30	769.5	30.37	771.5	36.9	2.7	55	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.93	760.3	30.54	775.6	28.0	— 2.2	91	SSE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.26	768.7	30.55	775.9	30.2	— 1	86	E			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.58	751.3	30.54	775.7	27.5	— 2.5		NE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.22	767.5	30.41	772.5	33.6	0.9	98	SW			1					0	0	Foggy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.62	752.3	30.53	775.5	26.2	— 3.2	91	NW			3		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.91	759.6	30.50	774.7	28.2	— 2.1	96	NNE			1		10n		NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.17	766.3	30.41	772.4	42.1	5.6	84	Calm			0		1		E	0.030	0.75		Ch. de Rermaree, Dir.
Caen, Normal School	30.45	773 4	30.49	774.4	32 9	0.5	92	S			1		10		SE	0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.91	759.6	30.34	770.5	46.4	8	94	NW			2		2	S	S	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'	30.22	767.5	30.56	776.2	30.0	— 1.1		SE			1		10					Covered	Jadot, Director
Chartres, Normal School	29.89	759.3	30.51	775.0	26.8	— 2.9	82	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.02	737.1	30.49	774.4	24.4	— 4.2	100	NW			1		10			0	0	Dense fog	Alluard, Director.
Commercy, Normal School	29.62	752.4	30.55	775.9	27.9	— 2.3		E			1		10	E	E	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.22	742.2	30.30	771.2	48.2	9.0	52	N			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.69	754.2	30.52	775.3	27.3	— 2.6		E			1		10n		NE	0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.32	770.2	30.55	776 0	35.2	1.8	79	N			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.21	767.4	30.55	776.0	26.6	— 3	87	SE			2		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	30.59	776.9	30.57	776.4	25.7	— 3.5	85	NE			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.32	770.1	30.43	772.9	34.5	1.4	89	ENE			2		10	NE	E	0.028	0.7	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.84	757.9	30.51	774.9	28.0	— 1.9	78	ESE			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.06	763.5	30.34	770.5	49.8	9.9	56	W			1				W	0	0	Misty	E. Stephan, Director.
Mirecourt, Normal School	29.34	745.3	30.46	773.7	27.5	— 2.5	92	NW			1		10			0	0	Foggy	Barbier, Director.
Mont-Louis	25.07	636.7	30.38	771.7	39.6	4.2	80	WSW	13.0	5.8			0			0	0		M. Cave
Nice	30.30	769.7	30.34	770.6	51.4	10.8	75	W			2		1	W	W	0	0	Clear	M. Bolssière, Director.
Nismes, Normal School	30.13	765.2	30.32	770.2	42.3	5.7	75	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.23	767.9			29.7	— 1.3	90	E			1		10			Inap.	Inap.		Marié Davy, Director.
Perpignan	30.25	768.4	30.37	771.3	47.7	8.7	43	SE	0	0			0			0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.67	575.9			32.9	0.5									N	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.39	746.4	30.55	775.9	22.6	— 5.2							10	NE	NE	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	25.36	644.1			36.7	2.6	47	W			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.42	772.7	30.45	773.5	30.6	— 0.8	92	NE			2		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.44	773.2	30.53	775.4	31.1	— 0.5	91	ENE			1		10			0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.44	773.2	30.47	774.0	27.9	— 2.3	94	ESE			2		10			0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.35	771.0	30.52	775.2	30.2	— 1.0	90	E			1		10		E	0.010	0.4	Covered	E. Renou, Director.
Tarbes, Normal School	29.27	743.4	30.38	771.6	49.1	9.5	44	S			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.72	754.0	30.45	773.5	27.0	— 2.3		SE			1		10			0	0	Foggy	M. Julier Mercadier.
Tours	30.29	769.3	30.48	774.3	26.0	— 3.0		E			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.00	761.9	30.45	774.4	28.8	— 1.8	88	SE			2		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.74	755.5	30.51	775.0	30.2	— 1.1	97	S			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.2	29.84	757.9	75.2	24										0.98	25.		L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	30.45	773.4	30.47	774.0	35.6	2.0	95	NNE	13.4	6.0			10n			0.091	2.3	Raining	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 186.0 millimeters, or 5.815 inches has been [illegible]

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.60	751.8	30.47	774.0	30.9	— 0.6	86	NW			4		10ks			0.039	1.0	Snow-fog	Prof. Dr. Hoh.
Berlin	30.19	766 7	30.37	771.3	39.9	4.4	89	NW			3		10			0.063	1.6		Prof. Dr. Arndt.
Breslau	29.79	756.7	30.33	770.3	34.3	1.3	100	NW			3		10			0.035	0.88		Royal University Obs'y.
Carlsruhe	30.07	763.7	30.53	775.4	30.9	— 0.6	89	E			1		10	NE		0	0		Albert Senz.
Cassel	29.85	758.3	30.47	774.0	34.9	1.6	91	SE			1		10			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.23	767.7	30.61	777.5	33.8	1.0	70	SSW			0		10			Inap.	Inap.	Snowing	Physical Society.
Friedrichshafen	29.00	736.6	30.54	775.7	26.6	— 3.0	74	W			1		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.34	770.7	30.41	772.5	39.6	4.2	97	WNW			2		10			0.024	0.6	Foggy	Dr. Reinhold Kleeman.
Kiel	30.37	771.3	30.38	771.7	40.8	4.9	94	NW			2		10			0.005	0.13		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.19	766.8	30.28	769.0	32.2	0.1	74	N			2		1			0	0		Prof. E. Luther.
Köslin			30.32	770.1	35.8	2.1		Calm			0		4			0.134	3.4		H. Müller.
Leipsic Observatory	30.02	762.5	30.46	773.7	36.0	2.2	96	WSW			2		10					Raining	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.20	767.0	30.43	772.9	38.1	3.4	93	W			3		10ks	W		0.004	0.1	Drizzling	Dr. Assmann.
Memel	30.20	767.0	30.24	768.2	32.0	0	76	NE			3		2k						Reinbrecht & Issermann.
Munich (München)	28.59	726.2	30.48	774.2	25.3	— 3.7	92	N			2		10			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.29	769.3	30.30	769.7	35.8	2.1	80	NNW			2		7			0	0		A. Lothes.
Neustadt (Palatinate)	29.95	760.8	30.49	774.4	31.5	— 0.3		N			1		10			0.016	0.4		Reallehrer Dicknether.
Posen	30.01	762.3	30.32	770.0	35.8	2.1	94	NW			4		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.97	761.2	30.56	776.2	29.5	— 1.4	90	NE			1		10			0	0	Foggy	Imp. University Observatory.
Stuttgart	29.54	750.3	30.55	775.9	28.8	— 1.8	82	S			1		10			0	0	Hazy	Prof. Dr. Schoder.
Thorn	30.15	765.8	30.34	770.7	35.4	1.9	80	NW			3		8			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.96	735.5	30.56	776.2	29.5	— 1.4	90		0.7	0.3			10		W	0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.35	770.8	30.37	771.3	33.4	0.8	100	NE			1		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.85	758.1	30.25	768.3	46.9	8.3		NW			1.5		0					Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.84	758.0	29.90	759.3	73.2	22.9	77	W	8	3.6			0			0	0	Blue sky	
Deesa	29.44	747.8	29.92	760.1	73.7	23.2	51	WSW	5.1	2.3			0			0	0	Blue sky	
Bombay	29.85	758.3	29.89	759.2	76.0	24.9	76	NNW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.8	29.87	758.6	81.8	27.7	20	WNW	8	3.6			0			0	0	Blue sky	
Belgaum	27.35	694.6	29.88	759.0	77.2	25.1	33	W	4	1.8			0			0	0	Blue sky	
Lahore	29.06	738.2	29.84	758.0	59.0	15.0	57	Calm	2	0.9			4			0	0	Blue sky	
Roorkee	28.99	736.4	29.93	760.2	60.4	15.8	57	Calm	2.0	0.9			5			0	0	D. clouds	
Agra	29.24	742.8	29.82	757.5	68.7	20.4	47	Calm	2.6	1.2			4			0	0		
Nagpur	28.81	731.8	29.86	758.5	75.8	24.3	22	Calm	2.4	1.1			0			0	0	Blue sky	
Jubbulpore	28.47	728.2	29.85	758.2	75.6	24.2	31	NW	2.7	1.2			0			0	0	Blue sky	
Lucknow	29.46	748.2	29.84	758.0	67.7	19.8	38	NW	0.4	0.2			7			0	0	D. clouds	
Allahabad	29.54	750.2	29.86	758.4	63.5	17.5	63	Calm	1.4	0.6			0			0	0	Blue sky	
Patna	29.66	753.4	29.85	758.2	68.2	20.1	57	Calm	0.5	0.2			4			0	0	D. clouds	
Hazaribagh	27.78	705.6	29.85	758.1	63.8	17.7	44	WNW	8.2	3.7			0			0	0	Blue sky	
Cuttack	29.76	755.8	29.84	758.0	72.5	22.5	47	W	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.81	757.2	29.83	757.7	64.9	18.3	63	Calm					0			0	0	Blue sky	
Goalpara	29.44	747.8	29.84	758.0	65.7	18.7	73	Calm	1.6	0.7			10		W	0.04	1.0	Overcast	
Chittagong	29.76	755.9	29.85	758.3	68.3	20.2	96	Calm	1.0	0.4			0			0	0	Misty	
Sibsagar	29.52	749.8	29.87	758.6	63.0	17.7	84	WSW	2.0	0.9			10	W	W	0.01	0.3	D. clouds	

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

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.87	758.8	30.35	770.8	39.4	4.1	41	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Cl odig.
Milan	29.77	756.1	30.32	770.1	31.3	— 0.4	94	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.24	768.0	30.36	771.0	26.8	— 2.9	84	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.40	746.8	30.35	770.8	28.6	— 1.9	75	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.16	766.0	30.36	771.1	50.2	10.1	61	W	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.33	719.5	30.32	770.2	38.5	3.6	42	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.30	769.6	30.35	770.9	36.1	2.3	64	NW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.10	764.6	30.38	771.6	38.3	3.5	85	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.29	769.4	30.38	771.7	47.3	8.5	70	NNE	9.8	4.4	.....	.....	7	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.16	766.1	30.35	770.8	46.6	8.1	60	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.00	762.1	30.26	768.7	50.0	10.0	60	NW	11.2	5.0	.....	.....	4	NW	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.43	747.6	30.36	771.0	48.7	9.3	70	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.13	765.3	30.33	770.4	54.1	12.3	54	NE	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.11	764.8	30.37	771.4	54.7	12.6	50	NNW	1.8	0.8	.....	.....	9	NNW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.27	768.8	30.32	770.0	52.2	11.2	71	NE	2.5	1.1	.....	.....	4	W	.....	0	0	.....	Prof. V.G. Guiliano.
Sub-Series.																			
Naples, S. R.	29.80	756.8	30.34	770 5	49.3	9.6	52	ESE	0.7	0 3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.05	763.3	30.06	763.5	36.0	2.2	93	NE	4.5	2.0	.....	.....	08	.....	.....	0.001	0.03	.....	K. Sasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	45.1	7.3	68	NW	2.4	1.1	.....	.....	108	.....	.....	0	0	Cloudy.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.69	754.1	29.76	755.6	34.4	1.3	88	NE	3.3	1.5	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	29.94	760.5	29.99	761.7	39.2	4.0	92	ESE	3.4	1.5	.....	.....	7ks;s	.....	.....	0.063	1.60	Cloudy	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	637.0	30.33	770.5	37.4	3.0	50	S	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.47	621.5	30.33	770.4	46.4	8.0	78	N	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.69	754.1	29.95	760.7	64.6	18.1	93	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.07	586.0	30.34	769.8	40.1	4.5	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.04	610.7	.....	.....	57.4	14.1	71	NE	.....	.....	1	2k	2k	S	SW	0	0	Blue sky	M. Fena, M. D.
Pabellon (Aguascalientes)	23.97	608.7	30.07	763.4	43.3	6.3	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.51	597.1	30.56	776.2	37.4	3.0	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.2	30.37	771.3	45.3	7.4	50	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	30.03	762.8	30.04	763.1	68.9	20.5	94	S	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.01	762.3	30.04	763.0	69.8	21.0	91	Calm	0	0	.....	3k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.60	574.1	30.33	770.4	50.0	10.0	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.57	776.5	30.57	776.5	36.0	2.2	.....	SE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Groningen	30.45	773.5	30.51	774.9	40.5	4.7	.....	N	.....	.....	0	.....	.....	.....	.....	0.020	0.5	.....	
Holder	30.52	775.2	30.52	775.2	39.2	4.0	.....	NNW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.56	776.1	30.56	776.1	34.2	1.2	92	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.7	30.55	775.9	37.9	3.3	93	SSE	.....	.....	0	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.32	770.2	30.38	771.6	42.1	5.6	91	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....
Brönö	30.27	768.8	30.31	769.8	37.9	3.3	85	SSW	9	4	.....	.....	10	.....	.....	0.039	1.0	.....	.....
Christiana	30.19	766.7	30.34	770.6	35.8	2.1	82	SE	0	0	.....	.....	4	.....	.....	0	0	Light fog	.....
Tromsö	30.04	763.1	30.09	764.2	32.4	0.2	90	SW	13	6	.....	.....	10	.....	.....	0.472	12.0	.....	.....

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.39	746.6	30.44	773.1	45.0	7.2	69	ENE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.16	766.1	30.25	768.4	62.8	17.1	61	SSW	4.3	1.9	.....	.....	10	.....	.....	0.165	4.2	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.08	763.9	30.45	773.5	44.8	7.1	81	NE	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.95	760.8	30.02	762.6	54.0	12.2	83	N	11.2	5.0	.....	.....	10	.....	.....	0.197	5.0	Raining	.....

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Maio, Cape Verd Id's	.....	.....	.....	.....	77.4	25.2	.....	NE	.....	.....	2	.....	4	.....	NE	.....	.....	D. clouds	T. Pereira, 2nd Lieut.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando, Gulf of Guinea	.....	.....	29.84	758.0	81.0	27.2	.....	W	.....	.....	3	.....	6	.....	W	.....	.....	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.13	765.2	61.2	16.2	.....	ENE	.....	.....	2	.....	10	.....	.....	1	N	Overca t, 2 hr's rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.91	759.8	29.93	760.3	19.8	— 6.8	97	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	29.99	761.7	29.91	759.7	29.3	— 1.5	96	Calm	0	0	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.48	748.9	30.03	762.8	3.1	—13.3	98	SW	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Dorpat	29.93	760.3	30.19	766.9	22.6	— 5.2	93	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.02	737.2	30.10	764.5	— 2.7	—19.3	89	Calm	0	0	.....	c	1cs	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.73	755.2	30.04	762.9	— 2.0	—18.9	82	N	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.95	735.4	29.63	752.6	19.6	— 6.9	97	N	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Krotkowo*	29.48	748.8	30.01	762.2	1.8	—16.8	75	NE	0	0	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjanow.
Lugan	29.40	746.7	29.62	752.3	14.5	— 9.7	91	E	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.41	747.0	30.00	762.1	12.9	—10.6	76	SE	7.8	3.5	.....	.....	8	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	27.93	709.4	30.54	775.6	— 8.0	—22.2	59	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.45	747.9	29.52	749.7	30.0	— 1.1	98	W	45	20	.....	.....	10n	.....	.....	.....	.....	Snowing	Kurdakof.
Nukuss	29.90	759.4	30.15	765.8	25.2	— 3.8	95	E	4	2	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Oyenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.45	773.5	30.69	777.1	17.4	— 8.1	19	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.11	764.8	30.13	765.2	14.7	— 9.6	100	NNW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.50	723.9	30.15	765.7	33.4	0.8	96	.....	.....	.....	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Tiflis	28.59	726.2	30.09	764.3	29.1	— 1.6	62	NW	4	2	.....	.....	8cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.77	756.2	30.22	767.5	32.9	0.5	75	N	16	7	.....	.....	2ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.68	753.9	30.13	765.2	25.7	— 3.5	74	NNE	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.12	765.0	30.46	773.6	—18.4	—28.0	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.30	769.6	30.41	772.4	46.8	8.2	51	S	2.6	1.17	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.33	770.3	30.39	771.8	50.0	10.0	67	SE	2.2	0.96	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.41	696.1	.....	.....	28.8	— 1.8	96	SW	1.5	0.69	.....	0	0	.....	.....	0	0	Foggy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.15	715.1	30.51	775.0	37.0	2.8	78	S	5.2	2.33	.....	0	2	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	30.27	768.9	30.43	772.8	57.4	14.1	69	WNW	2.2	0.97	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.47	748.6	30.38	771.6	55.9	13.3	76	SW	0	0	.....	.....	6	.....	.....	0.067	1.7	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.00	762.1	30.07	763.8	66.7	19.3	90	Calm	0	0	.....	0	1s;k	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.82	757.5	29.88	758.9	82.0	27.8	74	E	0	0	.....	.....	2s	.....	W	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.1	30.38	771.7	60.3	15.9	59	E	14.0	6.3	.....	0	2	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	759.4	29.99	761.7	72.7	22.6	94	SW	0	0	.....	5ckn	3kn	SE	SE	0.324	8.25	Cloudy	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.24	768.0	30.28	769.0	1.0	—17.2	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.17	766.4	30.23	767.7	23.0	— 5.0	95	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.21	767.4	30.26	768.7	30.6	— 0.8	100	Calm	.....	.....	0	.....	2	.....	.....	0.047	1.2	.....	
Stockholm	30.17	766.3	30.35	770.8	31.3	— 0.4	81	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Wisby	30.16	766.1	30.22	767.6	33.4	0.8	71	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.30	767.0	30.28	769.2	30.6	— 0.8	92	NW	0	0	.....	.....	6	.....	.....	0.004	0.11	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.30	736.5	30.51	775.0	25.7	— 3.5	91	N	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.79	731.3	30.54	775.7	23.4	— 4.8	90	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.8 mm.; Thermometer, —4.8 Cent.; Relative Humidity, +11 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.09	764.3	38.7	3.7	71	SW	19	8.5	.....	.....	10	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.26	768.6	48.9	9.4	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.04	762.9	47.7	8.7	89	ESE	.....	.....	1	.....	10n	.....	NW	0.63	16.0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	30.07	779.0	30.08	779.3	6.5	—14.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.56	776.2	30.64	778.2	1.0	—18.8	97	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.58	776.7	30.62	777.7	6.1	—14.4	100	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.98	761.5	30.18	766.6	18.8	— 7.3	98	E	.....	.....	1	0	2s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.41	772.4	30.59	777.0	16.7	— 8.5	.....	E	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	30.42	772.7	30.44	773.2	12.3	—10.9	90	SE	10.0	4.5	.....	2cs	2s	.....	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.53	775.4	30.60	777.2	7.1	—13.8	98	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.09	738.9	30.04	763.0	—13.0	—25.0	100	NW	10	4.5	.....	0	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.80	731.5	29.92	760.0	42	5.6	.....	SE	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	30.45	773.4	30.59	777.0	26.0	— 3.3	93	NE	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.66	753.4	30.04	763.0	36.7	2.6	92	NE	.....	.....	1	6cs	0	NW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.82	757.4	30.17	766.3	34.7	1.5	71	SW	11	4.9	.....	7ck	0	SW	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.61	777.5	30.65	778.5	20.4	— 6.4	85	N	2	0.9	.....	1k	0	W	.....	0	0	Clear	C. H. Rigby.
Montreal, Quebec	30.04	763.0	30.26	768.6	17.5	— 8.1	85	SE	16	7.2	.....	4c	Sm'o	.....	.....	0	0	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	29.52	749.8	29.55	750.6	40.0	4.4	87	SW	.....	.....	4	.....	10	.....	.....	Inap.	Inap.	Cloudy	J. R. Nesson.
Norwood	29.33	745.0	30.05	763.3	35.0	1.7	89	SE	6	2.7	.....	7c	0	SE	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.20	741.7	29.91	759.7	37.5	3.1	86	E	21	9.4	.....	.....	10n	.....	E	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.05	763.3	37.1	2.8	76	SE	.....	.....	2	.....	10ks	.....	.....	0.35	8.9	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.27	743.4	29.98	761.5	40.9	4.9	91	S	4	1.8	.....	10k	0	S	.....	0.03	0.8	Fair	H. Morgan.
Port Stanley, Ontario	29.26	743.2	29.91	759.7	40.2	4.6	88	E	23	10.3	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	M. Payne.
Quebec, Quebec	30.06	763.5	30.40	772.1	22.0	— 5.6	86	E	.....	.....	1	Haze	Fog	.....	.....	0	0	Foggy	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.38	771.6	30.55	776.0	23	— 5.0	73	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.18	741.1	29.90	759.4	42	5.6	91	SE	20	8.9	.....	.....	9ks	.....	.....	0.01	0.3	Cloudy	K. Stewart.
Stratford, Ontario	28.65	727.7	29.95	760.7	38.7	3.7	97	SE	10.0	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.64	778.2	30.68	779.3	3.2	—16.0	95	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.61	752.1	30.00	762.0	40.3	4.6	96	E	10	4.5	.....	.....	10n	.....	.....	0.02	0.5	Cloudy	Magnetic Observatory
Windsor, N. S	30.56	776.2	30.66	778.7	21.0	— 6.1	85	N	1	0.4	.....	0	4ks	.....	.....	0	0	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.73	729.7	29.80	756.9	40.3	4.6	98	E	14	6.3	.....	.....	10s	.....	S	Inap.	Inap.	Overcast	Professor Wolverton.
Yarmouth, N. S	30.39	771.9	30.46	773.7	30.7	— 0.7	88	E	9	4.0	.....	4ck	3ks	SE	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.45	773.4	30.73	780.5	10	—12.2	.....	W	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.49	774.4	8.6	—13.0	.....	NW	.....	.....	1	cs	n	.....	.....	0	0	Cloudy	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	30.10	764.5	30.35	770.9	23	— 5.0	86	NE	10	4.5			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.08	738.6	29.74	755.4	34	1.1	100	SE	13	5.8			Fog		Calm	0.05	1.3	Dense fog	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.92	734.6	30.08	764.0	49	9.4	93	NE	12	5.4			10s		Calm	0.93	23.6	Cloudy	
Atlantic City, New Jersey	30.23	767.8	30.24	768.1	42	5.6	100	NE	14	6.3			Fog		Calm	0.03	0.8	Foggy	
Augusta, Georgia	29.97	761.2	30.17	766.3	57	13.9	94	E	4	1.8			10n		Calm	Inap.	Inap.	Light rain	
Baltimore, Maryland	30.22	767.6	30.27	768.8	41	5.0	91	S	4	1.8			10s		Calm	0.01	0.3	Threatening	
Barnegat, New Jersey	30.20	767.1	30.22	767.6	40	4.4	100	NE	18	8.0			Fog		Calm	0.01	0.3	Light rain	
Bismarck, Dakota	28.18	715.8	30.04	763.0	—15	—26.1	100	NW	12	5.4		0	5s		Calm	0	0	Fair	
Boerne, Texas	28.41	721.6	29.70	754.4	61	16.1	100	SW	3	1.3			10s		SW	0	0	Cloudy	
Boise City, Idaho	26.93	684.0	29.89	759.2	30	— 1.1	78	SE	18	8.0			10s		Calm	0.02	0.5	Cloudy	
Boston, Massachusetts	30.21	767.3	30.37	771.4	33	0.6	79	N	10	4.5			Fog		Calm	0	0	Foggy	
Brackettville, Texas	28.80	731.5	29.84	757.9	61	16.1	94	E	1	0.4			10s		Calm	0.02	0.5	Cloudy	
Breckenridge, Minnesota	28.92	734.6	30.05	763.3	— 8	—22.2	100	N	14	6.3			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.96	761.0	30.00	762.0	71	21.7	83	S	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.26	743.2	29.96	761.0	45	7.2	68	SE	6	2.7		0	8s		S	0	0	Fair	
Burkes, Arizona																			
Burlington, Vermont	29.99	761.7	30.30	769.6	35	1.7	53	SE	10	4.5		5c	0	SW		0	0	Fair	
Cairo, Illinois	29.42	747.3	29.79	756.7	62	16.7	88	S	13	5.8			10s		S	0	0	Threatening	
Campo, California	27.50	698.5	30.07	763.8	23	— 5.0	86	E	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.18	766.6	51	10.6	100	NE	16	7.2			10s		Calm	0.03	0.8	Cloudy	
Cape Henry, Virginia	30.20	767.1	30.22	767.6	46	7.8	92	NW	9	4.0			10n		N	0.25	6.3	Light rain	
Cape Lookout, N. Carolina	30.16	766.1	30.18	766.6	48	8.9	100	N	17	7.6			10s		N	Inap.	Inap.	Cloudy	
Cape May, New Jersey	30.21	767.3	30.24	768.1	42	5.6	100	NE	13	5.8			Fog			0.04	1.0	Foggy	
Castroville, Texas	29.19	741.4	29.80	759.2	62	16.7	100	NW	2	0.9			Fog		Calm	0	0	Foggy	
Cedar Keys, Florida	30.09	764.3	30.11	764.8	62	16.7	88	E	4	1.8		0	1s		Calm	0	0	Clear	
Charleston, South Carolina	30.07	763.8	30.13	765.3	57	13.9	94	NE	6	2.7			10s		Calm	0	0	Threatening	
Charlotte, North Carolina	29.30	744.2	30.13	765.3	46	7.8	92	NE	7	3.1			10s;fg		NE;Calm	0.51	13.0	Cloudy	
Chattanooga, Tennessee	29.22	742.2	30.02	762.5	56	13.3	94	S	12	5.4			10s		S	0.90	22.9	Cloudy	
Cheyenne, Wyoming	23.83	666.5	29.82	757.4	28	— 2.2	54	W	28	12.5		0	0			0	0	Clear	
Chicago, Illinois	28.89	733.8	29.56	750.8	55	12.8	81	S	8	3.6			10s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.23	742.4	29.86	758.4	58	14.4	91	S	8	3.6			10ks		S	1.16	29.5	Cloudy	
Cleveland, Ohio	29.16	740.7	29.88	758.9	49	9.4	85	SE	18	8.0			10s		S	0	0	Cloudy	
Coleman City, Texas	28.18	715.8	29.84	757.9	52	11.1	86	N	12	5.4			10s		NW	0	0	Cloudy	
Columbus, Ohio	29.05	737.9	29.87	758.7	55	12.8	87	S	8	3.6			10ks		S	0.29	7.4	Cloudy	
Concho, Texas	28.06	712.7	29.70	754.4	62	16.7	83	W			1		10ks		Calm	0	0	Cloudy	
Corsicana, Texas	29.44	747.8	29.90	759.4	65	18.3	89	S	12	5.4		0	0			0	0	Clear	
Davenport, Iowa	28.82	732.0	29.43	747.5	53	11.7	93	S	3	1.3			10n		Calm	0.01	0.3	Light rain	
Dayton, Washington T'y					35	1.7	70	S			2		10s		Calm	0.03	0.8	Cloudy	
Deadwood, Dakota	25.12	638.0			28	— 2.2	54	S	8	3.6		0	0			0	0	Clear	
Decatur, Texas																			
Denison, Texas	29.06	738.1	29.83	757.7	61	16.1	94	SW	9	4.0		0	5s		SW	0	0	Fair	
Denver, Colorado	24.68	626.9	29.90	759.4	29	— 1.7	56	SE	1	0.4		0	0			0	0	Clear	
Des Moines, Iowa	28.73	729.7	29.60	751.8	42	5.6	83	N	19	8.5			10s		Calm	0.05	1.3	Cloudy	
Detroit, Michigan	29.11	739.4	29.77	756.1	50	10.0	93	S	9	4.0			10n		Calm	0.04	1.0	Light rain	
Dodge City, Kansas	27.40	696.0	29.74	755.4	36	2.2	45	N	12	5.4		0	0			0	0	Clear	
Dubuque, Iowa	28.79	731.3	29.46	748.3	48	8.9	93	W	3	1.3			10n		Calm	0.08	2.0	Light rain	
Duluth, Minnesota	28.82	732.0	29.49	749.0	36	2.2	90	NW	20	8.9			10s		NW	0.06	1.5	Cloudy	
Eagle Pass, Texas	29.20	741.7	29.91	759.7	64	17.8	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.43	772.9	30.50	774.7	32	0.0	79	E	7	3.1		0	8s		E	0	0	Fair	
Edinburg, Texas					67	19.4	90	SE			1		8s		SE	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.25	742.9	29.97	761.2	45	7.2	76	SE	12	5.4		5cs	0	Calm		0	0	Fair	
Escanaba, Michigan	28.87	733.3	29.51	749.5	38	3.3	81	S	13	5.8			Fog		S	0.04	1.0	Foggy	
Florence, Arizona	28.51	724.1	30.11	764.8	38	3.3	91	Calm	0	0		8cs	0	W		0	0	Fair	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.92	709.2	30.02	762.5	—15	—26.1	100	Calm	0	0			10n		Calm	Inap.	Inap.	Light snow	
Fort Custer, Montana	26.66	677.2			0	—17.8	69	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.20	640.1	30.16	766.1	44	6.7	60	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.25	742.9	29.77	756.1	61	16.1	88	W	8	3.6		0	2s		Calm	0	0	Fair	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	44	6.7	46	S	5	2.2		0	5s		Calm	0	0	Fair	
Fort Griffin, Texas					59	15.0	76	W	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.18	690.4			—10	—23.3	53	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.73	704.1	29.62	752.3	59	15.0	94	W	11	4.9			Fog		W	0	0	Foggy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.66	728.0	29.74	755.4	62	16.7	36	N	22	9.8		0	5s		Calm	0	0	Fair	
Fort Stevenson, Dakota	28.17	715.5			—17	—27.2	100	NW	3	1.3		0	0			0	0	Clear	
Fort Verde, Arizona					31	— 0.6	89	W			1	0	0			0.02	0.5	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.14	714.7	29.64	752.8	68	20.0	84	S	8	3.6		5cs	0	Calm		0.10	2.5	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	67	19.4	89	S	4	1.8		0	2s		Calm	0	0	Clear	
Graham, Texas	28.84	732.5	29.87	758.7	57	13.9	87	SW	2	0.9		0	5s		NW	0	0	Fair	
Grand Haven, Michigan	29.00	736.6	29.63	756.2	54	12.2	87	S	4	1.8			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.04	737.6	29.97	761.2	54	12.2	93	NE	10	4.5		0	5s		W	0	0	Fair	
Indianapolis, Indiana	28.96	735.6	29.72	754.9	56	13.3	87	SE	12	5.4			10ks		Calm	0.39	9.9	Cloudy	
Indianola, Texas	30.00	762.0	30.02	762.5	65	18.3	94	S	9	4.0		0	0			0	0	Clear	
Jacksboro, Texas	28.75	730.2	29.86	758.4	60	15.6	82	SW				0	5s		SW	0	0	Fair	
Jacksonville, Florida	30.09	764.3	30.12	765.0	60	15.6	94	NE	1	0.4			Fog		Calm	0	0	Foggy	
Keokuk, Iowa	28.84	732.5	29.42	747.3	55	12.8	81	SW	13	5.8			10s		SW	0	0	Cloudy	
Key West, Florida	30.03	762.7	30.07	763.8	72	22.2	85	E	6	2.7		2c	0	E		0	0	Clear	
Kittyhawk, North Carolina	30.08	764.0	30.11	764.8	48	8.9	100	NE	20	8.9			10n		NE	0.25	6.3	Light rain	
Knoxville, Tennessee	29.03	737.3	30.04	763.0	52	11.1	90	E	4	1.8			10s		N	0.40	10.2	Cloudy	
La Crosse, Wisconsin	28.73	729.7	29.45	748.0	46	7.8	77	W	4	1.8			10n		Calm	0.08	2.0	Light rain	
La Mesilla, New Mexico	26.10	662.9	30.26	768.6	44	6.7	76	Calm	0	0		1c	2s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.72	754.9	30.06	763.5	58	14.4	88	SE	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	28.91	734.3	29.75	755.6	40	4.4	73	NW	28	12.5		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	29.50	749.3	29.85	758.2	65	18.3	89	SW	12	5.4			10s		SW	0	0	Cloudy	
Los Angeles, California	29.78	756.4	30.13	765.3	41.5	5.3	87	NE	5	2.2		0	0			0.10	2.5	Clear	
Louisville, Kentucky	29.29	744.0	29.83	757.7	58	14.4	94	SE	12	5.4			10s;fg		Calm	0.39	9.9	Foggy	
Lynchburg, Virginia	29.54	750.3	30.24	768.1	43	6.1	91	E	3	1.3			10n		E	0.21	5.3	Light rain	
Madison, Wisconsin	28.45	722.6	29.40	746.7	50	10.0	93	S	11	4.9			Fog		Calm	0.05	1.3	Dense fog	
Marquette, Michigan	28.79	731.3	29.48	748.8	44	6.7	92	SE	5	2.2			10n		Calm	0.10	2.5	Light rain	
Mason, Texas	28.30	718.8	30.03	762.7	62	16.7	94	SW	3	1.3		0	8s		W	0	0	Fair	
Memphis, Tennessee	29.52	749.8	29.85	758.2	63	17.2	88	S	11	4.9			10s		S	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.78	731.0	29.49	749.0	45	7.2	92	SE	16	7.2			Fog			0.07	1.8	Foggy	
Mobile, Alabama	30.00	762.0	30.04	763.0	63	17.2	100	S	1	0.4			Fog			0	0	Foggy	
Montgomery, Alabama	29.83	757.7	30.06	763.5	64	17.8	94	SW	2	0.9			10s;fg		Calm	Inap.	Inap	Foggy	
Morgantown, West Virginia	29.02	737.1	30.01	762.2	51	10.6	72	SE	12	5.4			10ks		Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.95	608.3	30.31	769.9	23	— 5.0	86	S	48	21.5		2c	0	Calm		0	0	Clear	
Nashville, Tennessee	29.41	747.0	29.94	760.5	61	16.1	88	S	2	0.9			10ks;fg		Calm	0.06	1.5	Cloudy	
New Haven, Connecticut	30.17	766.3	30.30	769.6	33	0.6	89	NE	21	9.4			10s		NE	0	0	Cloudy	
New London, Connecticut	30.24	768.1	30.29	769.4	38	3.3	90	N	10	4.5			10s		Calm	0.01	0.3	Cloudy	
New Orleans, Louisiana	30.00	762.0	30.05	763.3	63	17.2	94	SW	4	1.8			Fog		Calm	0.03	0.8	Foggy	
Newport, Rhode Island	30.24	768.1	30.29	769.4	38	3.3	91	N	10	4.5			10s		NE	0.04	1.0	Cloudy	
New River, North Carolina																			
New York, New York	30.16	766.1	30.35	770.9	40	4.4	56	NE	15	6.7			10s		Calm	0.24	10.7	Cloudy	
Norfolk, Virginia	30.17	766.3	30.23	767.8	44	6.7	100	NW	10	4.5			10u		Calm	0.13	3.3	Light rain	
North Platte, Nebraska	27.05	687.1	29.74	755.4	25	— 3.9	75	NW	12	5.4		0	0			0	0	Clear	
Olympia, Washington Ter	29.45	748.0	29.49	749.0	34.0	1.1	95	S	4	1.8			10u		Calm	0.57	14.5	Light snow	
Omaha, Nebraska	28.77	730.7	29.92	760.0	23	— 5.0	73	NW	38	17.0		0	2s		Calm	0	0	Clear	
Oswego, New York	29.80	756.9	30.14	765.5	38	3.3	72	S	17	7.6		Haze	0			0	0	Clear	
Pembina, Dakota	29.05	737.9	30.00	762.0	—14	—25.6	100	NW	10	4.5		0	0			0	0	Clear	
Pensacola, Florida	30.05	763.3	30.08	764.0	62	16.7	100	SW	2	0.9		0	Fog		Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.21	767.3	30.26	768.6	38	3.3	91	NE	8	3.6			10u		Calm	Inap.	Inap.	Light rain	
Phœnix, Arizona	28.87	733.3	30.73	780.5	43	6.1	83	E	2	0.9		0	c			0	0	Clear	
Pike's Peak, Colorado	17.50	444.5	29.71	754.6	5	—15.0	50	SW	40	17.9		0	0			0.09	2.3	Clear	
Pilot Point, Texas	29.28	743.7	30.19	766.8	50	10.0	86	NW				0	0			0	0	Clear	
Ploche, Nevada					29	— 1.7	67	S	4	1.8		Haze	8s	Calm	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.21	741.9	30.03	762.7	49	9.4	71	SE	8	3.6			10s		SE	0.01	0.3	Cloudy	
Port Huron, Michigan	29.13	739.9	29.79	756.7	46	7.8	92	SE	14	6.3			10s		Calm	0.09	2.3	Cloudy	
Portland, Maine	30.34	770.6	30.39	771.9	26	— 3.3	63	N	14	6.3		2k	8s	NW	Calm	0	0	Cloudy	
Portland, Oregon	29.56	749.3	29.58	751.3	36	2.2	90	SE	5	2.2			10u			0.51	13.0	Light rain	
Portsmouth, North Carolina																0.03	0.8		
Prescott, Arizona	24.74	628.4	30.10	764.5	26	— 3.3	88	Calm			0	0	0			Inap.	Inap.	Clear	
Punta Rassa, Florida	30.07	763.8	30.08	764.0	64	17.8	89	NE	5	2.2		0	1s		Calm	0	0	Clear	
Red Bluff, California	29.57	751.1	29.94	760.5	44	6.7	88	SE	35	15.6			10u		SE	0.04	1.0	Light rain	
Rio Grande City, Texas	29.77	756.1	29.98	761.5	64	17.8	89	SE			1		10s		Calm	0	0	Cloudy	
Rochester, New York	29.41	747.0	30.04	763.0	43	6.1	47	S	8	3.6		5k	0	SW		0	0	Fair	
Roseburg, Oregon	29.04	737.6	29.61	752.1	38	3.3	86	SW	4	1.8			10s		Calm	0.60	15.2	Cloudy	
Sacramento, California	29.98	761.5	30.06	763.5	44	6.7	92	SE	16	7.2			10u		Calm	0.08	2.0	Light rain	
St. Louis, Missouri	29.04	737.6	29.59	751.6	57	13.9	87	S	24	10.7			10ks		SW	0	0	Cloudy	
St. Paul, Minnesota	28.74	730.0	29.59	751.6	23	— 5.0	86	NW	24	10.7			10u		NW	Inap.	Inap.	Light snow	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	32	0.0	59	SE	4	1.8			10s		Calm	0.04	1.0	Cloudy	
San Antonio, Texas	29.28	743.7	29.86	758.4	63	17.2	100	SW	4	1.8			10s		Calm	0	0	Cloudy	
San Diego, California	30.08	764.0	30.15	765.8	47	8.3	92	NE	7	3.1		0	1s		W	0	0	Clear	
Sandusky, Ohio	29.18	741.1	29.84	757.9	53	11.7	93	S	20	8.9			10s		S	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	38	3.3	100	NE	20	8.9			Fog		Calm	0.04	1.0	Dense fog	
San Francisco, California	29.98	761.5	30.05	763.3	49	9.4	85	S	11	4.9			10u		Calm	0.32	8.1	Light rain	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	20	— 6.7	56	NE	6	2.7		0	0			0.08	2.0	Clear	
Savannah, Georgia	30.05	763.3	30.14	765.5	58	14.4	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Shreveport, Louisiana	29.69	754.1	29.90	759.4	64	17.8	89	SW	6	2.7			10s		Calm	0	0	Cloudy	
Silver City, New Mexico																			
Smithville, North Carolina	30.14	765.5	30.18	766.6	57	13.9	93	N	8	3.6			10s		Calm	0.04	1.0	Clear	
Socorro, New Mexico	26.45	646.4	29.51	749.5	37	2.8	45	NE	4	1.8		0	0			0	0	Cloudy	
Springfield, Illinois	28.92	734.6	29.56	750.8	56	13.3	87	S	19	8.5			10s		S	0.01	0.3	Clear	
Springfield, Massachusetts	30.13	765.3	30.27	768.8	29	— 1.7	78	N	8	3.6			10s		N	0	0	Threatening	
Stockton, Texas																			
Thatcher's Island, Mass	30.29	769.4	30.35	770.9	38	3.3	100	N	16	7.2			10s		NE	0	0	Cloudy	
Toledo, Ohio	29.11	739.4	29.78	756.4	52	11.1	93	SE	9	4.0			10s		SW	0.01	0.3	Cloudy	
Tucson, Arizona	27.56	700.0	30.11	764.8	48	8.9	62	S			1	0	2s		W	0	0	Fair	
Umatilla, Oregon	29.25	742.9	29.74	755.4	35.0	1.7	80	E	4	1.8			10s			Inap.	Inap.	Cloudy	
Uvalde, Texas	29.07	738.4	29.88	758.9	58	14.4	100	NE	1	0.4			Fog		Calm	0	0	Dense fog	
Vicksburg, Mississippi	29.74	755.4	30.00	762.0	61	16.1	94	S	8	3.6		0	8s		SW	0	0	Fair	
Virginia City, Montana	23.93	607.8	29.41	747.0	16	— 8.9	66	SW	15	6.7		0	0			0.06	1.5	Clear	
Visalia, California	29.73	755.1	30.11	764.8	36	2.2	90	SE	2	0.9		0	2s		Calm	0.14	3.6	Fair	
Washington, D. C.	30.15	765.8	30.27	768.8	38	3.3	96	NE	2	0.9			Fog		Calm	0.01	0.3	Dense fog	
Wickenburg, Arizona					33	0.6	89	NW			1	1c	0	Calm		0.02	0.5	Clear	
Wilmington, North Carolina	30.09	764.3	30.18	766.6	49	9.4	93	NE	5	2.2			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	36	2.2	61	SW	10	4.5			9s		SW	0.11	2.8	Cloudy	
Wood's Holl, Massachusetts	30.22	767.6	30.26	768.6	42	5.6	83	E	6	2.7			10ks		NE	0	0	Cloudy	
Yankton, Dakota	28.72	729.5	30.14	765.5	8	—13.3	78	N	18	8.0		0	0			0.02	0.5	Clear	
Yuma, Arizona	29.87	758.7	30.02	762.5	44	6.7	84	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.7	71	21.7	79	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	74	23.3	82	N	4	1.8		2c	Haze	Calm		0	0	Fair	James Gall.
Navassa, W. I.	29.88	758.9	29.96	761.0	77.5	25.3	71												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	83	28.3	79	E			3	3c	6k	E		0.280	7.11	Fair	C. J. Hering.
Santiago de Cuba, W. I.	29.99	761.7	30.02	762.5	73	22.8	76	N	7.2	3.2		0	2s		N	0	0		Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.23	767.8	30.29	769.4	—44.5	—42.5		NE	16	7.2		0	0			0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 334 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,560 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m. Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.35 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.05‡	763.3‡			66	18.9	100	NE	1	0.4			Fog		SW					Foggy.
Navy Yard, Portsmouth, N.H.	29.95‡	760.7‡			31	— 0.6	89	NE	2	0.9			10							Foggy.
Naval Hospital, Yokohama, Japan	29.80‡	756.9‡			40	4.4	58	Calm			0		0			0	0			Clear
Adams, Mare I'd., Navy Yard, Cal.	30.11‡	764.8‡			56	13.3	87	SSW			4		10		SSW					Cloudy
Alaska, Arica, Peru *	29.87‡	758.7‡			70	21.1	75	SSW			1		5		NE					D. clouds
Colorado, New York, N. Y.	30.23‡	767.8‡			39	3.9	100	NE	8	3.6			10			0.01	0.3			Misty
Constitution, N. 18° 01′, W. 62° 35′	29.88‡	758.9‡			78	25.6	80	NE			3		3		ENE			Mod'ate	ENE	Clear
Enterprise. Piraeus, Greece	30.26‡	768.6‡			51	10.6	65	WSW			2		1		NNW			Smooth		Clear
Franklin, Off Navy Yard, Norfolk, Va.	30.24‡	768.1‡			45	7.2	100	N	7.2	3.2			10		NE	0.05	1.3			Cloudy
Independence, Mare I'd, Navy Yard, Cal.	30.03‡	762.7‡			49	9.4	93	S	7.2	3.2			10		S	0.136	3.45			Overcast
Kearsarge, N. 22° 40′, W. 84° 10′	30.07‡	763.8‡			75	23.9	81	ENE			2		5		E			Smooth		Fair
Lackawana, Honolulu, Sandwich Id's†	30.09‡	764.3‡			72	22 2	80	NE			1–3		10							Cloudy
Marion, N. 8° 00′, W. 37° 45′	29.86‡	758.4‡			80	26.7	74	NE			5		10		NE	0	0	Mod'ate	NE	Cloudy
Michigan, Erie, Pa.	29.79‡	756.7‡			46	7.8	77	S			4		2		S					Fair
Monocacy, Shanghai, China	30.46‡	773.7‡			36	2.2	90	NE			2		10							Raining
New Hampshire, Port Royal, S. C.	30.14‡	765.5‡			59	15.0	100	NE	10	4.5			8		NE	0.70	17.8			Cloudy
Nipsic, N. 22° 37′, W. 66° 11′	30.04‡	763.0‡			76	24.4	73	E			4		5					Long	E	Squally
Onward, Callao, Peru †.	29.89‡	759.2‡			67	19.4	97	SSE			2		10					Mod'ate	W	Foggy
Palos, Tientsin, China	30.55‡	776.0‡			22	— 5.6	100	NNW			2		0							Clear
Passaic, Washington, D. C.	30.27‡	768.8‡			40	4.4	82	Calm			0		10							Foggy
Pensacola, Callao, Peru	29.86‡	758.4‡			67	19.4	95	SSE			1		10					Smooth		Foggy
Powhatan, Navy Yard, Brooklyn, N.Y.	30.26‡	768.6‡			41	5.0	91	ENE			3		10		Calm	Ligh	L'ght			Drizzling
Quinnebaug, Villafranca, France	30.34‡	770.6‡			53	11.7	67	SSW			2		0							Clear.
Ranger, Honolulu, Sandwich Id's.	30.08‡	764.0‡			72	22.2	76	ENE			2		2		Calm					Fair
Richmond, Hong-Kong, China	29.99‡	761.7‡			65	18.3	94	ENE			2		10					Smooth		Rainy
Rio Bravo, Brownsville, Texas †	30.12‡	765.0‡			65	18.3	100	SE	1	0.4			2		SE	0	0			Fair
Santee, Annapolis, Md	30.28‡	769.1‡			40	4.4	100	NW			1		10		NW	0.02	0.5			Rain & fog
Shenandoah, Montevideo, Uruguay	29.90‡	759.4‡			68	20.0	79	SE			4		10		SE			Long	SE	Cloudy
St. Louis, League Island, Pa.	30.27‡	768.8‡			39	3.9	91	NE	7	3.1			10							Drizzling
Tennessee, Norfolk, Va.	30.18‡	766.6‡			50	10.0	100	N	2.5	1.1			10		Calm	0.15	3.8	Mod'te Smooth		Overcast
Trenton, Villafranca, France	30.36‡	771.1‡			57	13 9	58	W			2		2			0	0	Smooth		D. clouds
Tuscarora, Agajutla, San Salvador.	29.91‡	759.7‡			74	23.3	59	E			1		0					Smooth		Clear
Vandalia, Navy Yard, Brooklyn, N.Y.	30.29‡	769.4‡			39	3.9	73	NE			2		10		NE					Cloudy
Wabash, Boston, Mass.	30.37‡	771.4‡			37	2.8	81	NE	4	1.8			10			0	0			Overcast
Wachusett, Montevideo, Uruguay. †	30.43‡	772.9‡			68	20.0	79	SE			4		8		SE			Smooth	SE	Cloudy
Wyoming, Villafranca, France	30.34‡	770.6‡			53	11.7	86	SSW			0–1		0					Smooth	S	Clear

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Amount.		Direction.						
									Force.	Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																		
ALLAN LINE MARINE SERIES.																		
S. S. Caspian, M. Trocks, N. 51° 56', W. 20° 42'..		29.94‡	760.5‡				SW			6				WSW	Slight	Heavy	N; W	Fair
S. S. Circassian																		W. E. Jago. R. Carruthers.
S. S. Hibernian																		
S. S. Moravian, J. Graham																		John France.
S. S. Peruvian																		
S. S. Sardinian, J. E. Dutton																		A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																		A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																		
AMERICAN S. S. CO. MARINE SERIES.																		
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																		
S. S. Illinois, J. W. Shackford Philadelphia, Pa.....†		30.28‡	769.1‡	39	3.9	82	NE			2		10		NE				Cloudy
S. S. Indiana, R. W. Sargent Liverpool, Eng		30.71‡	780.0‡	37	2.8		S			2		8		SSE		Mod'ate		Cloudy
S. S. Ohio, Henry Morrison																		C. M. Rowe & G. Worth, jr. Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																		
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																		
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																		
S. S. Newbern, W. Metzger																		
NOTE—The originals give the wind-force by the scale 0 to 12.																		
CUNARD LINE MARINE SERIES.																		
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																		
S. S. Algeria, W. Watson, N. 51° 33', W. 8° 40'.....		30.32‡	770.1‡	47	8.3	77	SSE	22	9.8	10cs	4k	ESE	SSE		Smooth		Overcast	
S. S. Scythia, W. H. O. Hains																		H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																		
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																		
S. S. Amerika, C. Pohle																		
S. S. Braunschweig, C. Undutsch																		C. Undütsch.
S. S. Leipzig, F. Pfeiffer																		S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.64‡	778.2‡				N			3		10		N				Light rain...
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																		
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																		
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																		
S. S. Belgic, L. Meyer																		D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.....†		30.00‡	762.0‡	60	15.6		NE			4		0		NE	Consid'ble	Smooth	NE	Raining
S. S. Oceanic, Metcalf																		J. A. Thompson.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																		
OREGON S. S. CO., MARINE SERIES.																		
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																		
S. S. Geo. W. Elder, J. M. Lachlan																		J. M. Lachlan.
S. S. Oregon																		
NOTE.—The originals give the wind-force by the scale 0 to to 12.																		
PACIFIC COAST S. S. CO., MARINE SERIES.																		
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																		
S. S. Ancon, E. Alexander																		
S. S. Idaho, E. Alexander																		
S. S. Orizaba																		
S. S. State of California, G. Debney																		
NOTE.—The originals give the wind-force by the scale 0 to 12.																		

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

Names of Vessels and Captains.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			E. LeLack.
S. S City of Tokio																			F. S. Doane.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest.																			
S. 22° 51', W. 176° 19'		29 98‡	761 0‡				SE			4				SE		Smooth	S	Overcast	
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			McIaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 28° 08', W. 30° 47'		30.06‡	763.5‡	78	25.6		SE			4		8		SE		Smooth	ESE	Cloudy	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 39° 00', W. 71° 00'		30.17‡	766 3‡	66	18.9		NNE			5		10		N		Light Lough	ESE	Storming	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

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

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 10, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.32	770.0				W			1		0			0	0	Clear.	
Nemours			30.32	770.1	58.6	14.8	74	N			1		0			0	0	Clear.	Kesxuche.
Algiers			30.35	770.8	57.2	14.0	48	NE			1		0			0	0	Clear.	Tourilliere.
La Calle			30.37	771.3	57.7	14.3	59	W			2		9			0	0	Covered.	Foufrede.
Tunis																			Jacques
Sfax			30.42	772.6															Gau.
Saida			30.38	771.6															Herbin.
Tebessa			30.40	772.2	45.3	7.4	55	SE			2		2			0	0	Fair.	Watrin.
Geriville								SE.			2		0			0	0	Clear.	Brugnlaux.
Laghouat			30.47	773.8	47.5	8.6	46	WNW			3		0			0	0	Clear.	Bertrand.
Biskra			30.41	772.5	59.0	15.0	63	NW			1		0			0	0	Clear.	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.81	757.2	30.40	772.1	31.6	— 0.2	90	W			1	10				Inap.	Inap.	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.72	754.8	30.54	775.8	25.9	— 3.4	89	WNW	0.9	0.4		10				0	0		Dr. Wierzbicki.
Eperies	29.46	748.2	30.4	772.2	26.0	— 3.0	72	N			2	5ks		S		0	0		Julius Mikolik.
Gratz	29.10	739.0	30.42	772.6	33.4	0.8	70	NW			1	10				0	0		Andreas Rospini.
Hermannstadt	28.82	732.0	30.35	770.9	27.3	— 2.6	87	NW			2	10				0	0		Prof. A. Gottschling
Kremsmünster	29.05	737.9	30.48	774.2	30.7	— 0.7	98	W			2	10				0	0		Prof. C. Wagner.
Lemberg	29.33	745.0	30.41	772.3	21.1	— 6.1	95	NE			1	4				0.016	0.4		Dr. T. Stanecki.
Pola	30.23	767.8	30.35	770.8	43.0	6.1	81	WNW			1	3				0	0		I.R.Hydrographic Office
Szathmar	29.91	759.7	30.41	772.4	25.5	— 3.6	95	NE			2	0				0	0		Pet. Pancsics, S. J.
Szegedin	30.10	764.6	30.40	772.2	32.2	0.1	96					10				0	0		Karl Stancel.
Trieste	30.26	768.6	30.36	771.2	40.6	4.8	90	Calm			0	3				0	0	Almost clear	P. Busin.
Vienna	29.68	753.8			34.2	1.2		WNW			2					0.051	1.3		I.R.Central Met. Ob'sy.

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau
Brussels	30.34	770.6	30.55	776.0	36.9	2.7	98	E			1	10				0	0	Foggy	Royal Observatory
Furnes	30.55	775.9	30.57	776.5	38.5	3.6	95	SE			2	10				0	0	Foggy	M. E. de Cae.
Maeseyck	30.46	773.6	30.58	776.8	37.0	2.8	98	N			0	10				0	0	Foggy	M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.40	772.1	30.50	774.7	34.4	1.3	.....	W	4	1.8	.....	.....	1	.....	.....	0.010	0.25	Misty	W. Boswell.
Ardrossan	30.51	774.9	30.53	775.4	42	5.6	.....	SSE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	G.Carrick.
Armagh, (Observatory)	30.28	769.1	30.52	775.2	41.0	5.0	.....	S	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.57	776.5	33.8	1.0	.....	ESE	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	30.03	762.7	30.57	776.5	34.0	1.1	.....	SSE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.19	766.8	30.59	777.0	34.9	1.6	71	NW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.80	756.9	29.83	757.7	81	27.2	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.50	774.7	30.61	777.5	36.0	2.2	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.58	776.7	35.4	1.9	.....	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.42	772.7	30.56	776.2	39.1	3.9	.....	E	.....	.....	2	.....	9	.....	.....	Blank	Blank	Overcast	Geo. Stuart, Q. M. S'gt
Donaghadee	30.50	774.7	30.54	775.7	41	5.0	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.52	775.2	30.55	776.0	40	4.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth (Observatory)	30.21	767.3	30.44	773.2	40.8	4.9	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.82	706.6	30.04	763.0	66.4	19.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.36	771.1	43	6.1	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.32	770.1	30.52	775.2	39.9	4.4	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.59	777.0	30.60	777 2	39	3.9	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.38	771.6	30.56	776.2	38.8	3.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	30.20	767.1	30.43	772.9	36	2.2	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.43	772.9	30.66	778.5	42	5.6	.....	NE	.....	.....	2	.....	10k	.....	.....	0	0	Gloomy	M. P. Moyle.
Holyhead	30.48	774.2	30.54	775.7	39	3.9	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	30.16	766.1	30.47	773.9	33.8	1.0	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.53	775.4	30.56	776.2	38.7	3.7	.....	E	7	3.1	.....	.....	.....	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.32	770.1	30.59	777.0	34.5	1.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.17	766.3	30.25	768.3	57.6	14.2	.....	N	.....	.....	2	.....	1k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.36	771.1	30.45	773.4	44	6.7	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.12	765.0	73.2	22.9	.....	NE	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.45	773.4	30.65	778.5	35.0	1.7	.....	ESE	.....	.....	1	.....	10k	.....	E	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.04	763.0	30.59	777.0	33.1	0.6	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.37	771.4	30.45	773.4	40.2	4.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	30.37	771.4	30.46	773.7	43	6.1	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.34	770.6	30.51	774.9	37	2.8	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.46	773.7	42	5.6	.....	S	3	1.3	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.19	766.8	30.26	768.6	37.8	3.2	.....	NE	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	30.34	770.6	30.64	778.2	36.2	2.3	.....	SSW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.53	775.4	30.56	776.2	36.9	2.7	77	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.59	777.0	33.5	0.8	.....	SSE	2	0.9	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	35.9	2.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.38	771.6	30.45	773.4	43	6.1	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.34	770.6	30.36	771.1	46.3	7.9	.....	SE	21	9.4	.....	.....	10	.....	.....	Blank	Blank	Gloomy	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.01	762.2	30.05	763.3	76.0	24.4	49	S	.....	18.8	8.4	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.60	650.2	.....	.....	87	30.6	.....	SSE	.....	.....	.....	.....	0	3k	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.78	680.2	.....	.....	75	23.9	.....	E	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.20	767	69.9	15.5	.....	SE	.....	.....	Strong	.....	Slight	.....	.....	0	0	Fine	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.54	775.7	35.0	1.7	.....	SW	.....	.....	.....	.....	0	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.99	761.8	80.5	26.9	67	ESE	22.0	9.8	.....	2	5	WNW	E	0.03	0.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.05	763.3	30.14	765.5	55.2	12.9	79	S	4	1.8	.....	.....	0	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.41	772.4	47	8.3	.....	S	.....	.....	4	.....	10	.....	.....	0.2	5.	.....	.....
North Unst, Shetland Is	.....	.....	30.43	772.9	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.43‡	747.5‡	50.8	10.4	.....	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 45′, W. 9° 20′	.....	.....	30.32	770.1	47	8.3	.....	ESE	.....	.....	5	.....	10	.....	.....	4	SSE; NNE	Overcast	Capt. A. J. Brown
City of Cashmere, S. 51° 50′, W. 101° 50′	.....	.....	29.22‡	742.2‡	45.8	7.7	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 33° 05′, W. 59° 55′	.....	.....	30.37‡	771.4‡	66.3	19.1	.....	ESE	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	Capt. Jas. Buchan.
S. S. Decapolis, N. 42° 33′, W. 22° 43′	.....	.....	29.65‡	753.1‡	56.5	13.6	.....	SW	.....	.....	8	.....	4	.....	.....	.....	.....	Showery	.....
Barque Fedalma, N. 40° 20′, W. 34° 10′	.....	.....	30.14	765.5	50	10.0	.....	NNW	.....	.....	5–7	.....	9	.....	.....	5	NW	Hailing	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony	.....	.....	30.01‡	762.2‡	76	24.4	.....	ESE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 25° 0′, W. 77° 30′	.....	.....	30.13	765.3	75	23.9	.....	ENE	.....	.....	4	.....	5	.....	.....	2	.....	D. clouds	.....
S. S. Strathleven, N. 20° 20′, E. 38° 40′	.....	.....	29.94‡	760.5‡	72.5	22.5	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Campbell.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	62.2	16.8	84	NE			1		8d		E	0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.59	777.0	30.64	778.2	33.8	1.0	79	ESE			2		10						
Fanöe	30.61	777.5	30.63	778.0	34.6	1.4	100	N			2		10						Foggy
Godthaab (Greenland)																			
Stykkisholm (Iceland)	29.61	752.1	29.65	753.2	34.2	1.2	87	SW			7		8						Snowing
Thorshavn (Faröe)	30.20	767.1	30.24	768.0	49.3	9.6	94	SSW			6		10						
Vestervig	30.50	774.6	30.61	777.4	37.4	3.0	98	Calm			0		9						

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

FRENCH SERIES.

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

Alençon, Normal School	29.91	759.6	30.46	773.6	32.0	0	89	E			2		10			0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.41	772.4	30.58	776.4	38.8	3.8	80	E			1		8		Calm	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.27	768.8	30.54	775.8	34.5	1.4	89	ESE			1				SE	0	0	Foggy	Klein, Commandant.
Avignon, Normal School	30.31	769.9	30.39	771.9	37.4	3	50	NNE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.88	758.9	30.47	774.0	33.3	0.7	85	ESE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.23	767.9	30.52	775.1	36.3	2.4	86	E			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.53	750.0	30.48	774.3	28.6	— 1.9		NE			1		1		NE	0	0	Clear	A. Carré, Director.
Bordeaux	30.08	764.0	30.28	769.0	35.8	2.1	82	W			1		10			0.004	0.10	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.58	751.4	30.49	774.5	24.4	— 4.2	100	NW			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.87	758.6	30.46	773.6	29.1	— 1.6	92	ENE			2		10n		NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.15	765.8	30.39	772.0	31.6	— 0.2	85	ENE			2		10		NE	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.38	771.6	30.42	772.6	37.6	3.1	65	S			1-2		8		SE	0	0	Very cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.87	758.6	30.30	769.7	40.6	4.8	81	NW			2		5	SE	SE	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.18	766.5	30.52	775.1	36.5	2.5	96	ESE			1		5					Cloudy	Jadot, Director
Chartres, Normal School	29.85	758.2	30.45	773.5	32.0	0	79	ENE			2		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.96	735.6	30.43	773.0	22.6	— 5.2	100	NW			1		10			0	0	Dense fog	Alluard, Director.
Commercy, Normal School	29.56	750.9	30.49	774.4	34.0	1.1	85	E			1		8n	E	E	0	0	Foggy	Dr. Coullet, Director.
Commune de Gréasque*	29.21	742.0	30.35	771.0	47.1	8.4	66	N			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.66	753.4	30.49	774.4	28.4	— 2		W			1		kn			0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.16	766.1	30.39	772.0	30.9	— 0.6	80	NE			3		10			0	0	Covered	Moullot, Director.
Le Mans, Normal School	30.12	765.1	30.45	773.5	29.8	— 1.2	92	SE			2		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.44	747.7	30.42	772.7	24.8	— 4	78	NE			2		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.29	769.4	30.40	772.2	28.8	— 1.8	86	NE			1		10			0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.80	756.8	30.46	773.6	28.4	— 2.0	71	SSE			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.04	763.1	30.32	770.1	49.8	9.9	63	SW			1		3		E	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.37	745.9	30.47	774.0	34.2	1.2	96	NE			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	24.99	634.8	30.31	769.8	39.6	4.2	49	S	11.2	5.0			0			0	0		M. Cave
Nice	30.30	769.5	30.33	770.4	52.9	11.6	67	NW			1		1	NW	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.13	765.4	30.35	770.8	42.3	5.7	70	NE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.19	766.9			36.0	2.2	84	E			1		10		E	Inap.	Inap.		Marié Davy, Director.
Perpignan	30.23	767.7	30.34	770.6	37.6	4.2	80	NE	5.6	2.5			10			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.58	573.4			28.0	— 2.2									SE	0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.36	745.8	30.50	774.8	33.8	1							1	NE	NE	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.29	642.4			35.2	1.8	46	WSW			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.34	770.6	30.37	771.4	34.2	1.2	92	ENE			3		10	ENE	ENE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.40	772.2	30.49	774.4	37.6	3.1	83	ESE			2		10		E	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.39	771.9	30.42	772.7	30.7	— 0.7	80	ESE			3		10	SE	SE	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.31	769.9	30.48	774.1	35.4	1.9	87	NE			1		10		E	0	0		E. Renou, Director.
Tarbes, Normal School	29.16	740.6	30.26	768.6	49.1	9.5	54	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.60	751.8	30.33	770.3	39.9	4.4	95	SE			1		0			0	0	Foggy	M. Juher Mercadier.
Tours	30.22	767.6	30.42	772.6	28.4	— 2.0		E			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	29.96	760.9	30.45	773.4	35.2	1.8	85	ESE			2		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.71	754.6	30.48	774.3	25.2	— 3.8	85	NE			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.83	757.7	29.86	758.4	75.9	24.4										0.51	13.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.45	773.5	30.48	774.2	39.4	0.8	96	NNE	6.3	2.8			10n			0.106	2.7	Snowing	Marc Dechevrens.

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

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.60	751.7	30.47	773.9	33.4	0.8	85	N			2		10ks	W		0	0		Prof. Dr. Hoh.
Berlin	30.40	772.2	30.58	776.8	36.9	2.7	74	NE			2		10			0	0		Prof. Dr. Arndt.
Breslau	30.00	762.0	30.54	775.7	32.5	0.3	94	NE			2		10			0.130	3.29	Raining	Royal University Obs'y.
Carlsruhe	30.06	763.5	30.52	775.1	35.2	1.8	82	NE			1		10			0	0		Albert Senz.
Cassel	29.95	760.8	30.57	776.5	36.0	2.2	87	NE			3		10			0.069	1.74		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.23	767.8	30.61	777.6	36.1	2.3	75	N			1		10			0.020	0.5		Physical Society.
Friedrichshafen	28.98	736.1	30.51	775.0	28.8	— 1.8	72	SE			1		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.56	776.2	30.63	778.0	34.2	1.2	94	N			1		10			Inap.	Inap.	Light fog.	Dr. Reinhold Kleeman.
Kiel	30.61	777.4	30.62	777.8	35.6	2.0	84						9			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.49	774.5	30.58	776.8	26.1	— 3.3	73	W			2		9			0	0		Prof. E. Luther.
Köslin			30.59	776.9	34.5	1.4		NE			2		4			0	0		H. Müller.
Leipsic Observatory	30.13	765.3	30.58	776.7	34.0	1.1	87	NNE			2		10	N		0.094	2.4		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.35	770.9	30.58	776.8	37.0	2.8	86	NNE			1		10ks	NNE		0.020	0.5		Dr. Assmann.
Memel	30.41	772.5	30.45	773.3	27.3	— 2.6	89	NNE			2–3		10k						Reinbrecht & Issermann.
Munich (München)	28.58	726.0	30.47	774.0	28.9	— 1.7	90	NE			1		10			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.58	776.8	30.60	777.2	28.8	— 1.8	88	ESE			2		7	NNE		0.004	0.1		A. Lothes.
Neustadt (Palatinate)	29.54	760.4	30.49	774.4	36.0	2.2	82	NE			1		10			0	0		Reallehrer Dicknether
Posen	30.32	770.2	30.63	778.0	33.8	1.0	72	N			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.93	760.3	30.52	775.1	35.4	1.9	82	NE			1		5	NE		0	0		Imp. University Observatory.
Stuttgart	29.50	749.4	30.50	774.8	32.9	0.5	87	NE			1		10			0	0		Prof. Dr. Schoder.
Thorn	30.40	772.2	30.60	777.5	33.1	0.6	85	NE			3		10			0	0	Hazy	Dr. Cunerth.
Weissenburg (Bavaria)	28.95	735.4	30.56	776.1	32.2	0.1	89		0.7	0.3			10			0	0		Reallehrer J. Hopfner
Wustrow	30.62	777.8	30.65	778.4	34.9	1.6	96	NW			1		10ks			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.84	757.9	30.24	768.0	50.4	10.2		NW			1.5		1k					Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.86	758.6	29.92	759.9	74.2	23.4	74	NW	10	4.5			0			0	0	Blue sky	
Deesa	29.45	748.1	29.94	760.4	72.8	22.7	47	SW	6.0	2.7			0			0	0	Foggy	
Bombay	29.89	759.3	29.93	760.3	75.5	24.2	76	NNW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.05	712.4	29.91	759.6	78.0	25.6	24	WNW	17	7.6			0			0	0	Blue sky	
Belgaum	27.36	694.9	29.90	759.4	76.4	24.7	49	SW	7	3.1			0			0	0	Blue sky	
Lahore	29.12	739.5	29.89	759.2	60.6	15.9	45	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	28.99	736.3	29.92	759.9	63.0	17.2	38	NW	2.0	0.9			0			0	0	Blue sky	
Agra	29.28	743.7	29.86	758.4	68.7	20.4	39	N	3.5	1.6			0			0	0	Blue sky	
Nagpur	28.81	731.7	29.85	758.5	74.7	23.7	28	Calm	2.8	1.2			0			0	0	Blue sky	
Jubbulpore	28.48	723.2	29.86	758.5	71.8	22.1	45	W	1.8	0.8			0			0	0	Blue sky	
Lucknow	29.44	747.8	29.83	757.6	66.5	19.2	34	NW	1.1	0.5			0			0	0	Blue sky	
Allahabad	29.52	749.7	29.84	758.0	63.0	17.2	62	Calm	2.7	1.2			0			0	0	Blue sky	
Patna	29.64	752.9	29.83	757.6	68.0	20.0	56	W	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.78	705.6	29.85	758.2	62.0	16.7	42	WNW	7.1	3.2			0			0	0	Blue sky	
Cuttack	29.75	755.7	29.84	757.8	72.5	22.5	58	W	0.8	0.4			0			0	0	Blue sky	
Jalcutta (Alipore)	29.80	756.8	29.82	757.4	66.2	19.0	59	Calm					0			0	0	Blue sky	
Goalpara	29.43	747.4	29.83	757.7	64.4	18.0	82	Calm	2.5	1.1			10		S	0.02	0.5	Overcast	
Chittagong	29.78	756.4	29.87	758.7	69.3	20.7	76	SSE	2.3	1.0			0			0	0		
Sibsagar	29.54	750.4	29.80	759.3	61.8	16.6	94	WSW	1.7	0.8			10	W	W	0.03	0.8	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.93	760.2	30.36	771.2	41.0	5.0	51	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.84	757.8	30.39	771.8	30.4	— 0.9	96	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.25	768.3	30.37	771.3	33.4	0.8	70	WNW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.44	747.7	30.38	771.7	25.5	— 3.6	77	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.13	765.4	30.34	770 5	51.1	10.6	42	N	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.38	720.8	30.37	771.5	35.1	1.7	55	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.31	769.9	30.36	771.2	34.5	1.4	73	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.08	764.0	30.36	771.0	38.3	3.5	69	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.27	768.8	30.36	771 1	49.8	9 9	57	NE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.14	765.5	30.32	770 2	46.2	7.9	63	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.99	761.8	30.26	768.5	50.0	10.0	63	NW	8.1	3.6	.....	.....	7	NW	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.37	746.0	30.29	769.4	47.5	8.6	69	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.08	764.1	30.28	769 2	51.8	11.0	52	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.06	763.5	30.32	770.0	54.0	12.2	66	Calm	0	0	.....	.....	9	.....	.....	0.012	0.3	.....	Prof. G. Ciaccatore.
Syracuse	30.21	767.3	30.26	768.5	52.3	11.3	64	E	8.7	3.9	.....	.....	7	WSW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R	29.75	755.6	30.29	769.3	49.3	9.6	48	ESE	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.20	767.1	30.22	767.6	35.9	2.2	71	NNE	2.8	1.2	.....	0	0	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.09	764.3	30.31	769.9	37.0	2.8	71	NNE	1.3	0.6	.....	.....	10s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.83	757.7	29.90	759.4	36.9	2.7	55	NNW	9.2	4.1	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.10	764.5	30.16	766.0	39.2	4.0	61	NW	6.4	2.9	.....	.....	10s	.....	.....	0	0	Cloudy	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.05	636.4	30.30	769.5	38.3	3.5	47	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	Prof. L. Perez.
Leon	24.45	621.0	30.30	769.6	46.0	8.3	75	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.66	753.3	29.92	760.0	60.8	16.0	96	SE	.....	.....	2	0	0	.....	.....	0	0	Foggy	F. Quijano, C. E.
Mexico, Central Observatory	23.07	586.0	30.32	770.2	39.2	4.0	55	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.06	611.1	.....	.....	57.6	14.2	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	23.97	608.8	30.13	765.4	41.7	5.4	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.48	596.5	30.57	776.4	35.2	1.8	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.18	614.1	30.34	770.6	43.6	6.4	58	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	30.04	763.1	30.06	763.4	64.4	18 0	95	SW	.....	.....	1	0	0	.....	.....	0	0	Dense fog	Prof. M. M. Chazaro.
Vera-Cruz	30.02	762.6	30.05	763.3	68.0	20.0	91	Calm	0	0	.....	2k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.58	573.6	30.29	769.3	51.6	10.9	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.59	777.0	30.59	777.0	37.4	3.0	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.55	776.0	30.61	777.4	39.7	4.3	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.60	777.3	30.60	777.3	38.8	3.8	.....	N	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.59	777.0	30.59	777.0	39.0	3.9	97	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.55	776.0	30.60	777.2	40.5	4 7	93	N	.....	.....	2	.....	8	.....	.....	0.004	0.1	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.47	773.8	30.52	775.2	39.9	4.4	84	SSE	8.5	3.8	.....	.....	8	.....	.....	0	0	.....	
Brönö	30.32	770.1	30.36	771.1	42.8	6.0	93	SW	18	8	.....	.....	10	.....	.....	0.118	3.0	Rain & fog..	
Christiana	30.38	771.7	30.54	775.7	30.2	— 1.0	160	SSW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.95	760.7	29.99	761.8	36.7	2.6	89	SW	9	4	.....	.....	10	.....	.....	0.386	9.8	Raining... ..	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.24	742.6	30.26	768.6	50.4	10.2	58	ENE	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.08	764.1	30.17	766.4	64.9	18.3	44	SW	7.4	3.3	.....	.....	5	.....	.....	0.130	3.3	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.93	760.2	30.30	769.7	45.9	7.7	80	NE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.91	759.7	29.98	761.5	57.2	14.0	57	WNW	9.4	4.2	.....	.....	3	.....	.....	0.228	5.8	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd't
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.																		
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	77.7	25.4	.....	E	.....	.....	4	.....	1	.....	E	1	E	Blue sky.....	T. Pereira, 2nd Lieut.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A. de Brito Capello.																		
St. Paul de Loando, Gulf of Guinea	.....	.....	29.84	758.0	80.6	27.0	.....	WNW	.....	.....	4	.....	3	.....	NW	.....	.....	D. clouds.....	F. de Assis Camillo, Jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes,																		
Macao, China	.....	.....	30.19	766.8	61.0	16.1	.....	ENE	.....	.....	3	.....	10	.....	ENE	2	N	Overcast. 18 hr's rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	30.26	768.5	30.28	769.0	6.4	—14.2	90	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.08	764.1	30.00	762.0	25.9	— 3.4	95	SE	7	3	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.78	756.5	30.34	770.5	9.9	—12.3	99	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.30	769.5	30.56	776.2	20.3	— 6.5	87	NW	4	2	.....	.....	8km	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.14	740.2	30.23	767.8	— 3.5	—19.7	93	Calm	0	0	.....	2c	.....	.....	.....	.....	.....	Foggy	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.92	759.9	30.23	767.7	— 6.7	—21.5	89	N	2	1	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.56	750.7	30.25	768.4	12.9	—10.6	80	•NW	13	6	.....	c	4cs,ks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.67	753.5	30.20	767.0	— 2.9	—19.4	75	N	11	5	.....	.....	3s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.46	748.3	29.67	753.7	29.1	— 1.6	80	E	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.76	755.9	30.37	771.5	6.4	—14.2	79	N	4	2	.....	.....	3s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.90	711.2	30.65	778.6	—14.4	—25.8	58	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.10	764.6	30.17	766.4	15.3	— 9.3	78	NNW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.76	755.9	30.00	762.1	33.6	0.9	92	Calm	0	0	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.34	770.6	30.48	774.2	19.8	— 6.8	52	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.43	773.0	30.45	773.4	12.4	—10.9	90	NW	4	2	.....	.....	9k	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.46	722.9	30.10	764.5	36.3	2.4	84	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.64	727.4	30.13	765.2	32.9	0.5	43	NW	4	2	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.06	763.4	30.51	775.0	26.2	— 3.2	78	NE	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.07	763.6	30.52	775.1	21.7	— 5.7	74	NNE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds....	Astronomical Obs.
Yeniseisk	30.11	764.7	30.44	773.1	—10.3	—23.5	79	ESE	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.22	767.6	30.33	770.3	48.2	9	53	SSW	1.5	0.67	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.20	767.0	30.26	768.5	49.5	9.7	74	SE	1.9	0.87	.....	2	7	SW	.....	0.287	7.3	Misty.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.23	691.7	.....	.....	35.6	2.0	94	S	1.4	0.61	.....	0	10	.....	.....	0.079	2.0	Snowing.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.04	712.1	30.40	772.2	33.6	0.9	82	S	0	0	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.21	767.2	30.36	771.1	48.2	9.0	78	SW	2.3	1.03	.....	5	5	NE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.27	743.4	30.19	766.7	48.4	9.1	90	SW	0	0	.....	.....	10	.....	.....	0.004	0.1	Covered.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.6	30.09	764.3	66.5	19.2	89	Calm	0	0	.....	c	1k	NW	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.83	757.6	29.88	758.9	81.4	27.4	70	SE	0	0	.....	4ck	.....	E	.....	0.035	0.9	Fair.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.18	766.6	30.28	769.1	61.0	16.1	48	SE	9.1	4.1	.....	0	1	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.81	757.1	29.90	759.4	77.0	25.0	86	E	7.0	3.15	.....	3c	2k	E	E	0.266	6.75	Clear.	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.14	765.5	30.18	766.5	21.9	— 5.6	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	
Umea	30.24	768.0	30.29	769.3	24.1	— 4.4	95	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.38	771.7	30.43	773.0	29.6	— 1.4	96	SSW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Stockholm	30.42	772.7	30.60	777.2	31.1	— 0.5	98	W	.....	.....	2	.....	9	.....	.....	0.008	0.2	.....	
Wisby	30.43	772.8	30.48	774.3	34.9	1.6	75	NNW	.....	.....	4	.....	7	.....	.....	0.004	0.1	.....	
Sub-Series.																			
Upsala	30.43	772.9	30.52	775.1	29.8	— 1.2	87	SW	4.0	1.8	.....	7		NW	.....	0.006	0.14	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	28.99	736.4	30.50	774.8	27.5	— 2.5	79	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.77	730.8	30.50	774.8	27.3	— 2.6	80	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.7 mm.; Thermometer, —3.8 Cent.; Relative Humidity, —1 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.32	770.0	36.7	2.6	58	NNE	8	3.5	.....	.....	8	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.20	767.0	49.3	9.6	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.20	767.1	52.9	11.6	62	WNW	.....	.....	1	.....	10m	.....	SW	0.04	1.0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	29.82	757.4	29.83	757.7	25.7	— 3.5	.....	SE	1	0.4	.....	.....	.....	.....	.....	0	0	Misty	Hon. J. Ferguson.
Chatham, N. B	29.77	756.1	29.83	757.7	31.0	— 0.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0.09	2.3	Foggy	G. A. Blair.
Charlottetown, P. E. Island	29.79	756.7	29.84	757.9	30.1	2.3	93	SE	9	4.0	.....	.....	10n	.....	.....	0.18	4.6	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.69	754.1	29.89	759.2	32.0	0.0	60	NW	.....	.....	7	0	2s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.65	753.1	29.83	757.7	25.5	— 3.6	.....	SE	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	29.62	752.3	29.65	753.1	27.1	— 2.7	88	NE	10.0	4.5	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.76	755.9	29.82	757.4	28.3	— 2.1	96	Calm	0	0	.....	.....	10s	.....	.....	0.17	4.3	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.77	730.7	29.70	754.4	— 9.6	—23.1	100	SE	22	9.8	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	29.09	738.9	30.25	768.3	30	— 1.1	.....	Calm	.....	.....	0	0	4ks	.....	.....	0.16	4.1	Clearing	James Grant.
Halifax, N. S	29.74	755.4	29.87	758.7	41.2	5.1	98	S.	4	1.8	.....	.....	Fog	.....	.....	0.58	14.7	Drizzling	A. Allison.
Hamilton, Ontario	29.86	758.4	30.25	768.3	32.3	0.2	94	SW	.....	.....	2	0	0	.....	.....	0.13	3.3	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.76	755.9	30.11	764.8	32.9	0.5	72	W	18	8.0	.....	0	0	.....	.....	0.09	2.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.66	761.0	30.06	762.0	37.7	3.2	96	S	8	3.6	.....	.....	10n	.....	.....	0.73	18.5	Raining	C. H. Rigby.
Montreal, Quebec	29.58	751.3	29.78	756.4	33.7	0.9	58	W	48	21.5	.....	1k	2ks	W	.....	0.08	2.0	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	30.24	768.1	30.28	769.1	—12.6	—24.8	85	W	.....	.....	5	0	1	.....	.....	0.30	7.6	Clear	J. R. Nelson.
Norwood	29.40	746.7	30.13	765.3	29.2	— 1.6	83	W	35	15.6	.....	10k	0	NW	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.51	749.5	30.26	768.6	17.6	— 8.0	84	NW	18	8.0	.....	0	0	.....	.....	0.20	5.1	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.18	766.6	29.7	— 1.3	77	W	.....	.....	2	.....	9ks	.....	.....	0	0	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.52	749.8	30.25	768.3	31.0	— 0.6	89	SW	2	0.9	.....	0	0	.....	.....	0.13	3.3	Clear	H. Morgan.
Port Stanley, Ontario	29.58	751.3	30.26	768.6	30.4	— 0.9	86	W	4	1.8	.....	2ck	0	W	.....	0	0	Clear	M. Payne.
Quebec, Quebec	29.38	746.2	29.71	754.6	34.0	1.1	100	E	.....	.....	6	.....	10n	.....	.....	0.5	1.3	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	29.62	752.3	29.79	756.7	37	2.8	100	SW	.....	.....	2	.....	Fog	.....	.....	0.9	2.3	Foggy	G. Murdock, C. E.
Saugeen, Ontario	29.51	749.5	30.26	768.6	29	— 1.7	90	NW	15	6.7	.....	.....	10n	.....	.....	0.19	4.8	Overcast	K. Stewart.
Stratford, Ontario	28.93	734.8	30 29	769.4	27.3	— 2.6	83	NW	8.0	3.6	.....	.....	10s	.....	.....	0.31	7.9	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.00	762.0	30.05	763.3	39.0	3.9	98	SE	12	5.4	.....	.....	10n	.....	.....	0.33	8.4	Light rain	T. C. Hill, C. E.
Toronto, Ontario	29.82	757.4	30.23	767.8	30.8	— 0.7	95	NW	14	6.3	.....	0	0	.....	.....	0.08	2.0	Clear	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	N	9	4.0	.....	.....	.....	.....	.....	0.32	8.1	.....	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.13	739.9	30.25	768.3	29.1	— 1.6	90	W	11	4.9	.....	0	1s	.....	W	0.46	11.7	Fine	Professor Wolverton.
Yarmouth, N. S	29.80	756.9	29.87	758.7	39.1	3.9	95	SW	7	3.1	.....	.....	Fog	.....	.....	0.10	2.5	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.29	769.4	30.56	776.2	18	— 7.8	.....	SW	.....	.....	.....	10k	10s	.....	.....	Inap.	Inap.	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.26	768.6	30.2	— 1.0	.....	W	.....	.....	1	cs	n	.....	.....	0.08	2.0	Rain & fog	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.88	758.9	30.11	764.8	39	3.9	82	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.61	752.1	30.30	769.6	21	— 6.1	86	N	11	4.9	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.97	735.8	30.12	765.0	54	12.2	93	E	6	2.7	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Atlantic City, New Jersey	30.16	766.1	30.17	766.3	45	7.2	100	NW	9	4.0	.....	8k	0	NW	.....	0.07	1.8	Clearing	
Augusta, Georgia	30.02	762.5	30.22	767.6	57	13.9	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
Baltimore, Maryland	30.20	767.1	30.25	768.3	44	6.7	92	W	4	1.8	.....	5c	Fog	Calm	Calm	0.03	0.8	Fair	
Barnegat, New Jersey	30.12	765.0	30.14	765.5	43	6.1	100	NW	13	5.8	.....	0	5s	.....	W	0.07	1.8	Clearing	
Bismarck, Dakota	27.28	692.9	29.14	740.1	24	— 4.4	74	SE	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Boerne, Texas	28.50	723.9	29.80	756.9	62	16.7	94	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	26.54	674.1	29.50	749.3	30	— 1.1	78	NW	4	1.8	.....	5k	5s	W	W	0	0	Cloudy	
Boston, Massachusetts	29.85	758.2	30.01	762.2	39	3.9	91	SW	12	5.4	.....	0	1s	.....	Calm	0.22	5.6	Clear	
Brackettville, Texas	28.78	731.0	29.82	757 4	61	16.1	94	SE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Breckenridge, Minnesota	28.48	723.4	29.52	749.8	12	—11.1	100	SE	* 25	*11.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.96	761.0	30.00	762.0	72	22.2	90	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.50	749.3	30.23	767.8	34	1.1	70	W	11	4.9	.....	0	2s	.....	Calm	0.04	1.0	Clear	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.63	752.6	29.92	760 0	42	5.6	50	SW	22	9.8	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Cairo, Illinois	29.80	756.9	30.21	767.3	39	3.9	82	E	7	3.1	.....	0	0	.....	.....	0.02	0.5	Clear	
Campo, California	27.39	695.7	29.96	761.0	30	— 1.1	89	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	55	12.8	93	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Henry, Virginia	30.18	766 6	30.19	766.8	50	10.0	93	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	54	12.2	93	N	4	1.8	.....	2cs	5s	N	N	0.04	1.0	Cloudy	
Cape May, New Jersey	30.14	765.5	30.18	767.6	44	6.7	92	NW	17	7.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Castroville, Texas	29.17	740.9	29.86	758.4	64	17.8	94	SE	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Cedar Keys, Florida	30.14	765.5	30.16	766.1	63	17.2	94	NE	4	1.8	.....	0	2s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.13	765.3	30.19	766.8	58	14.4	94	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Fair	
Charlotte, North Carolina	29.33	745.0	30.15	765.8	50	10.0	100	W	1	0.4	.....	.....	Fog	.....	Calm	0.11	2.8	Threatening	
Chattanooga, Tennessee	29.34	745.2	30.14	765.5	54	12.2	93	NE	6	2.7	.....	.....	10s	.....	NE	0.02	0.5	Foggy	
Cheyenne, Wyoming	23.46	595.9	29.40	746.7	37	2.8	45	S	14	6.3	.....	0	0	.....	.....	0	0	Cloudy	
Chicago, Illinois	29.50	749.3	30.22	767.6	33	0.6	70	Calm	0	0	.....	.....	10s	.....	Calm	0.15	3.8	Clear	
Cincinnati, Ohio	29.63	752.6	30.30	769.6	40	4.4	82	N	4	1.8	.....	0	1s	.....	Calm	0.01	0.3	Cloudy	
Cleveland, Ohio	29.56	750.8	30.33	770.4	34	1.1	79	W	9	4.0	.....	5k	2s	W	Calm	0.02	0.5	Clear	
Coleman City, Texas	28.15	715.0	29.82	757.4	60	10.0	79	SW	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.42	747.3	30.30	769.6	39	3.9	64	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Concho, Texas	28.01	711.4	29.69	754.1	50	10.0	79	NE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.52	749.8	29.99	761.7	55	12.8	87	E	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.48	748.8	30.15	765.8	26	— 3.3	75	E	4	1.8	.....	0	8s	.....	Calm	0.01	0.3	Fair	
Dayton, Washington T'y	.....	.....	.....	.....	27	— 2.8	65	W	.....	.....	1	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Deadwood, Dakota	24.56	623.8	.....	.....	42	5.6	27	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.17	740.9	29.98	761.5	46	7.8	69	NE	4	1.8	.....	2ck	0	SE	.....	0	0	Fair	
Denver, Colorado	24.28	616.7	29.50	749.3	45	7.2	39	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.06	738.1	29.98	761.5	27	— 2.8	76	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.56	750.8	30.27	768.8	31	— 0.6	89	W	2	0.9	.....	0	0	.....	.....	0.17	4.3	Clear	
Dodge City, Kansas	27.12	688.8	29.42	747.3	36	2.2	61	S	30	13.4	.....	0	5s	.....	W	0	0	Fair	
Dubuque, Iowa	29.40	746.7	30.16	766.1	20	— 6.7	70	E	4	1.8	.....	.....	10ks	.....	E	0.02	0.5	Cloudy	
Duluth, Minnesota	29.37	746.0	30.11	764.8	8	—13.3	78	SW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.18	741.1	29.90	759 4	63	17.2	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.72	754.9	29.79	756.7	38	3.3	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.05	1.3	Dense fog	
Edinburg, Texas	.....	.....	.....	.....	71	21.7	90	S	.....	.....	1	.....	8s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.53	750.0	30.28	769.1	36	2.2	71	W	6	2.7	.....	0	2s	.....	SW	0.23	5.8	Fair	
Escanaba, Michigan	29.56	750.8	30.26	768.6	21	— 6.1	57	Calm	0	0	.....	0	5s	.....	NW	0.70	17.8	Fair	
Florence, Arizona	28.50	723.9	30.10	764.5	39	3.9	91	Calm	0	0	.....	10cs	0	W	.....	0	0	Cloudy	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.06	687.3	28.89	733.8	17	— 8.3	83	Calm	0	0	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	
Fort Custer, Montana	26.02	660.9	.....	.....	33	0.6	89	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.10	637.5	30.06	763.5	51	10.6	79	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.41	747.0	29.95	760.7	47	8.3	55	SE	12	5.4	.....	0	2s	.....	S	0	0	Fair	
Fort Grant, Arizona	25.11	637.8	29.91	759.7	48	8.9	31	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.66	728.0	29.95	760.7	44	6.7	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	26.44	671.6	.....	.....	34	1.1	79	NE	5	2.2	.....	.....	10s	.....	NE	0.10	2.5	Cloudy	
Fort McKavett, Texas	27.65	702.3	29.53	750.0	57	13.9	81	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.84	757.9	38	3.3	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.27	692.6	.....	.....	10	—12.2	100	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	32	0.0	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.10	713.7	29.61	752.1	63	17.2	94	S	10	4.5	.....	.....	10ks	.....	S	0.10	2.5	Cloudy	
Galveston, Texas	30.01	762.2	30.04	763.0	66	18.9	95	S	3	1.3	.....	0	8ks	.....	S	0	0	Cloudy	
Graham, Texas	28.84	732.5	29 92	760.0	39	3.9	91	NE	1	0.4	.....	0	2s	.....	SW	0	0	Fair	
Grand Haven, Michigan	29.55	750.6	30.23	767.8	30	— 1.1	78	Calm	0	0	.....	5cs	0	Calm	.....	0.21	5.3	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.95	735.3	29.91	759.7	40	4.4	82	E	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.41	747.0	30.23	767.8	34	1.1	79	NE	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Indianola, Texas	30.00	762 0	30.02	762.5	65	18.3	94	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.80	731.5	29.94	760.5	45	7.2	76	N	1	0.4	.....	2c	0	W	.....	0	0	Clear	
Jacksonville, Florida	30.15	765.8	30.18	766.6	60	15.6	88	E	3	1.3	.....	2c	Fog	Calm	Calm	0	0	Fair	
Keokuk, Iowa	29.42	747.3	30.07	763.8	28	— 2.2	66	E	9	4.0	.....	5cs	2s	Calm	Calm	0	0	Fair	
Key West, Florida	30.08	764.0	30.11	764.8	73	22.8	81	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.18	766.6	30.20	767.1	52	11.1	93	W	9	4.0	.....	.....	10s	.....	W	0.17	4.3	Cloudy	
Knoxville, Tennessee	29.16	740.7	30.18	766.6	49.5	9.7	79	N	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
La Crosse, Wisconsin	29.33	745.0	30.12	765.0	19	— 7.2	69	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	36	2.2	80	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Laredo, Texas	29.53	750.0	29.86	758.4	63	17.2	83	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.92	760.0	36	2.2	71	SE	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.76	755.9	30.12	765.0	49	9.4	71	NE	4	1.8	.....	2k	0	S	.....	0	0	Fair	
Los Angeles, California	29.72	754.9	30.08	763.5	46.0	7.8	92	NE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Louisville, Kentucky	29.65	753.1	30.24	768.1	39	3.9	72	NE	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.50	749.3	30.20	767.1	44	6.7	92	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.12	739.6	30.17	766.3	23	— 5.0	73	SE	1	0.4	.....	5cs	0	W	.....	0.23	5.8	Fair	
Marquette, Michigan	29.46	748.3	30.22	767.6	22	— 5.6	100	SE	8	3.6	.....	.....	10n	.....	Calm	0.35	8.9	Light snow	
Mason, Texas	28.30	718.8	30.04	763.0	59	15.0	82	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.76	755.9	30.11	764 8	48	8.9	71	NE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.47	748.5	30.24	768.1	27	— 2.8	88	NE	3	1.3	.....	0	1s	.....	Calm	0.44	3.6	Clear.	
Mobile, Alabama	30.08	764.0	30.12	765.0	59.5	15.3	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.90	759.4	30.18	765.3	61	16.1	97	SE	6	2.7	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
Morgantown, West Virginia	29.31	744.5	30.33	770.4	42	5.6	74	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Mt. Washington, N. H.	28.36	593.3	29.72	754.9	21	— 6.1	100	NW	75	33.5	.....	.....	Fog	.....	NW	0.40	10.2	Foggy	
Nashville, Tennessee	29.61	752.1	30.16	766.1	49	9.4	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.98	761.5	30.10	764.5	41	5.0	91	SW	4	1.8	.....	5cs	Fog	SW	SW	0.03	0.8	Clearing	
New London, Connecticut	30.02	762.5	30.07	763.8	42	5.6	91	W	11	4.9	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	63	17.2	88	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.99	761.7	30.04	763.0	42	5.6	100	SW	15	6.7	.....	.....	10s;fg	.....	Calm	0.08	2.0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	65	11.7	100	NW	.....	.....	1	.....	10s	.....	W	.....	.....	Cloudy	
New York, New York	29.92	760.0	30.10	764.5	43	6.1	75	SW	4	1.8	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Norfolk, Virginia	30.16	766.1	30.22	767.6	50	10.0	86	W	8	3.6	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
North Platte, Nebraska	26.59	675.4	29.15	740.4	31	— 0.6	69	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.44	747.8	29.48	748.8	28.0	— 2.2	94	S	6	2.7	.....	Haze	2s	.....	Calm	0.98	24.9	Fair	
Omaha, Nebraska	28.59	726.2	29.71	754.6	30	— 1.1	78	SE	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.84	757.9	30.18	766.9	39	3.9	64	NW	18	8.0	.....	0	0	.....	.....	0.11	2.8	Clear	
Pembina, Dakota	28.57	725.7	29.48	748.8	— 1	—18.3	100	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.12	765.0	30.16	766.1	58	14.4	94	W	4	1.8	.....	0	Fog	.....	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.13	765.3	30.18	766.6	45	7.2	92	W	5	2.2	.....	0	Fog	.....	Calm	0.05	1.3	Clear	
Phœnix, Arizona	28.74	730.0	30.59	777.0	42	5.6	83	E	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	17.32	439.9	29.53	750.0	9	—12.8	78	SW	20	8.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas	29.18	741.1	30.02	762.5	47	8.3	76	SE	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	.....	.....	.....	.....	31	— 0.6	69	S	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.46	748.3	30.30	769.6	38	3.3	72	NW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Port Huron, Michigan	29.57	751.1	30.28	769.1	20	— 1.7	89	NW	6	2.7	.....	.....	10ks	.....	NW	0.20	5.1	Cloudy	
Portland, Maine	29.85	758.2	29.90	759.4	34	1.1	89	NW	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Portland, Oregon	29.55	750.6	29.62	752.3	31	— 0.6	79	W	12	5.4	.....	.....	10n	.....	.....	0.61	15.5	Light snow.	
Portsmouth, North Carolina	.....	.....	.....	.....	56	13.3	94	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Prescott, Arizona	24.62	625.3	29.98	761.5	45	7.2	18	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.13	765.3	30.14	765.6	64	17.8	94	NE	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Red Bluff, California	29.51	749.5	29.88	758.9	37	2.8	81	N	4	1.8	.....	0	0	.....	.....	0.90	22.9	Clear	
Rio Grande City, Texas	29.92	760.0	30.14	765.5	67	19.4	89	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.50	749.3	30.14	765.5	36	2.2	71	W	10	4.5	.....	2k	0	W	.....	0.05	1.3	Clear	
Roseburg, Oregon	29.27	743.4	29.86	758.4	31	— 0.6	84	SW	4	1.8	.....	0	5n	.....	Calm	0.92	23.4	Light snow.	
Sacramento, California	29.86	758.4	29.94	760.5	42	5.6	91	SW	8	3.6	.....	0	5s	.....	Calm	1.17	29.7	Fair	
St. Louis, Missouri	29.58	751.3	30.18	766.6	54	1.1	79	E	8	3.6	.....	1cs	5ks	W	W	0	0	Fair	
St. Paul, Minnesota	29.03	737.3	29.92	760.0	14	—10.0	81	SE	16	7.2	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Salt Lake City, Utah	25.06	636.5	29.30	746.5	40	4.4	56	SE	28	12.5	.....	0	2s	.....	Calm	0	0	Clear	
San Antonio, Texas	29.31	744.5	29.88	758.9	65	18.3	94	S	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.03	762.7	30.10	764.5	45	7.2	84	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.60	751.8	30.30	769.6	36	2.2	91	W	11	4.9	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Sandy Hook, New Jersey	30.11	764.8	30.14	765.5	43	6.1	92	W	16	7.2	.....	0	0	.....	.....	0.08	2.0	Clear	
San Francisco, California	29.94	760.5	30.01	762.2	47	8.3	70	W	14	6.3	.....	.....	10n	.....	Calm	0.70	20.1	Light rain	
Santa Fé, New Mexico	23.14	587.8	29.68	753.9	32	0.0	50	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.12	765.0	30.21	767.3	58	14.4	94	Calm	0	0	.....	5ck	Fog	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.81	757.2	30.03	762.7	58	14.4	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.16	766.1	30.20	767.1	54	12.2	100	Calm	0	0	.....	8k	2s	Calm	Calm	0.01	0.3	Cloudy	
Socorro, New Mexico	25.27	641.8	29.33	745.0	35	1.7	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.49	749.0	29.19	766.8	35	1.7	70	E	9	4.0	.....	2k	5s	NW	NW	0	0	Fair	
Springfield, Massachusetts	29.93	760.2	30.07	763.8	37	2.8	90	S	5	2.2	.....	0	5s	.....	S	0.05	1.3	Clearing	
Stockton, Texas	7.08	687.8	30.08	764.0	45	7.2	18	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.94	760.5	30.00	762.0	37	2.8	90	SW	19	8.5	.....	.....	10s	.....	SW	0.74	18.8	Cloudy	
Toledo, Ohio	29.56	750.8	30.27	768.8	34	1.1	70	W	4	1.8	.....	0	0	.....	.....	0.20	5.1	Clear	
Tucson, Arizona	27.43	696.0	30.03	762.7	44	6.7	52	S	.....	.....	1	5k	0	S	.....	0	0	Fair	
Umatilla, Oregon	29.26	743.2	29.76	755.9	28.0	— 2.2	68	SW	20	8.9	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.96	758.1	29.86	758.4	63	17.2	94	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.82	757.4	30.08	764.0	60	15.6	100	SW	3	1.3	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Virginia City, Montana	23.47	596.1	28.95	735.3	22	— 5.6	72	SW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.52	749.8	29.80	756.9	49	9.4	93	SE	7	3.1	.....	.....	10n	.....	Calm	0.11	2.8	Light rain	
Washington, D. C.	30.12	765.0	30.23	767.8	43	6.1	92	NW	2	0.9	.....	5cs	Fog	Calm	Calm	0.02	0.5	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.12	765.0	30.20	767.1	54	12.2	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Winnemucca, Nevada	25.20	640.1	29.56	750.8	30	— 1.1	68	SW	27	12.1	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Wood's Holl, Massachusetts	30.06	763.5	30.09	764.3	42	5.6	91	W	12	5.4	.....	.....	10ks	.....	NW	0.11	2.8	Fair	
Yankton, Dakota	28.31	719.1	29.62	752.3	29	— 1.7	77	S	13	5.8	.....	5c	0	Calm	.....	0	0	Fair	
Yuma, Arizona	29.77	756.1	29.92	760.0	45	7.2	61	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	71	21.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	73	22.8	86	Calm	0	0	.....	2c	Haze	Calm	.....	0	0	Hazy	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	77.5	25.3	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	82	27.8	83	SE	.....	.....	3	5k	0	E	.....	0.020	0.51	Fair	C. J. Hering.
Santiago de Cuba, W. I.	30.00	762.0	30.02	762.5	72	22.2	81	N	3.6	1.6	.....	0	2s	.....	N	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.99	761.7	30.05	763.3	—21.0	—29.4	.....	E	8	3.6	.....	2c	2s	W	W	0	0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.98 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 6.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm. *Estimated.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10‡	764.5‡	.....	.....	66	18.9	94	NE	1	0.4	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Foggy.
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	33	0.6	89	SW	1	0.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.
Naval Hospital, Yokohama, Japan	29.86‡	758.4‡	.....	.....	38.5	3.6	43	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.
Adams, Mare I'd., Navy Yard, Cal.	30.04‡	763.0‡	.....	.....	48	8.9	85	WNW	.....	.....	1	.....	8	.....	WNW	.....	.....	.....	.....	Fair.
Alaska, Arica, Peru	*. 29.88‡	758.9‡	.....	.....	69	20.6	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Hazy.
Colorado, New York, N. Y.	30.09‡	764.3‡	.....	.....	42	5.6	100	WSW	1.7	0.8	.....	.....	0	.....	.....	0.02	0.5	.....	.....	Misty.
Constitution, N. 17° 27′, W. 64° 45′	..... 29.88‡	758.9‡	.....	.....	77	25.0	86	ENE	.....	.....	5	.....	1	.....	ENE	.....	.....	Light	NE	Clear.
Enterprise, Piraeus, Greece	.... 30.21‡	767.3‡	.....	.....	50	10.0	52	N	.....	.....	4	... .	1	.....	N	.....	.....	Smooth	.....	Clear.
Franklin, Off Navy Yard, Norfolk, Va.	30.13‡	765.3‡	.....	.....	52	11.1	86	WNW	12	5.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.
Independence, Mare I'd, Navy Yard, Cal.	30.06‡	763.5‡	.....	.....	48	8.9	93	NW	4.8	2.1	.....	.....	8	.....	NW	0.458	11.63	.....	.....	Cloudy.
Kearsarge, Havana, Cuba	... . 30.10‡	764.5‡	.....	.....	75	23.9	72	E	.....	.....	2	.....	8	.....	E	.....	.....	Smooth	.....	Fair.
Lackawana, Honolulu, Sandwich Id's	† 30.02‡	762.5‡	.....	.....	71	21.7	95	Calm	.....	.....	0	... .	0	.....	.....	.....	.....	.....	.....	Clear.
Marion, N. 6° 52′, W. 36° 10′	..... 29.88‡	758.9‡	.....	.....	80	26.7	74	NE	.....	.....	4	.....	5	.....	C;NE	Mod'ate	Mod'ate	Mod'ate	NE	Fair.
Michigan, Erie, Pa	..... 30.20‡	767.1‡	.....	.....	36	2.2	71	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.
Monocacy, Shanghai, China	.. .. 30.48‡	774.2‡	.....	.....	35	1.7	90	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Raining.
New Hampshire, Port Royal, S. C.	..... 30.19‡	766.8‡	.....	.....	59	15.0	100	NE	4	1.8	.....	.....	9	.....	W	0	0	.....	.....	Cloudy.
Nipsic, N. 20° 15′, W. 65° 04′	..... 29.96‡	761.0‡	.....	.....	77	25.0	77	E	.....	.....	4	. .....	5	.....	ESE	.....	.....	Long rough	E	Squally.
Onward, Callao, Peru	....† 29.87‡	758.7‡	.....	.....	69	20.6	90	S	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate	W	Foggy.
Palos, Tientsin, China	... . 30.45‡	773.4‡	.....	.....	30	-- 1.1	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.
Passaic, Washington, D. C.	..... 30.23‡	767.8‡	.....	.....	44	6.7	92	W	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.
Pensacola, Callao, Peru	..... 29.86‡	758.4‡	.....	.....	69	20.6	95	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.
Powhatan, Navy Yard, Brooklyn, N.Y.	30.13‡	765.3‡	.....	.....	45	7.2	92	W	.....	.....	3	.....	2	.....	W	Light	Light	.....	.....	Clear.
Quinnebaug, Villafranca, France	..... 30.32‡	770.1‡	.....	.....	56	13.3	57	SW	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Fair.
Ranger, Honolulu, Sandwich Id's.	30.03‡	762.7‡	.....	.....	72	22.2	85	E	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.
Richmond, Hong-Kong, China	..... 30.03‡	762.7‡	.....	.....	60	15.6	94	N	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Rainy.
Rio Bravo, Brownsville, Texas	... †. 30.14‡	765.5‡	.....	.....	67	19.4	100	SSE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.
Santee, Annapolis, Md	..... 30.21‡	767.3‡	.....	.....	43	6.1	92	N	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear.
Shenandoah, Montevideo, Uruguay	... 29.95‡	760.7‡	.....	.....	69	20.6	90	E	.....	.....	4	.....	10	.....	E	.....	.....	Smooth	.....	Cloudy.
St. Louis, League Island, Pa.	..... 30.18‡	766.6‡	.....	.....	41	5.0	91	WSW	8	3.6	.....	.....	2	.....	.....	0.05	1.3	.....	.....	Clear.
Tennessee, Norfolk, Va.	..... 30.21‡	767.3‡	.....	.....	57	13.9	100	W	3	1.3	.....	.....	10	.....	.....	0	0	Mod'ate smooth	.....	Overcast.
Trenton, Villafranca, France	..... 30.33‡	770.4‡	.....	.....	59	15.0	54	SE	.....	.....	2	.....	1	.....	.....	0	0	Smooth	.....	Blue sky.
Tuscarora, Agajutla, San Salvador.	29.96‡	761.0‡	.....	.....	71	21.7	66	N	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.
Vandalia, Navy Yard, Brooklyn, N.Y.	30.08‡	764.0‡	.....	.....	43	6.1	83	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.
Wabash, Boston, Mass.	..... 29.94‡	760.5‡	.....	.....	38	3.3	81	SW	6	2.7	.....	.....	8	.....	.....	0.05	1.3	.....	.....	Cloudy.
Wachusett, Montevideo, Uruguay	.† 30.46‡	773.4‡	.....	.....	69	20.6	90	E	.....	.....	4	.....	10	.....	E	.....	.....	Smooth	E	Cloudy.
Wyoming, Toulon, France	..... 30.31‡	769.9‡	.....	.....	56	13 3	74	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	S	Clear.

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 51° 40', W. 27° 42'...		29.73‡	755.1†				NE			6		10		NE	Slight	Heavy Confused		Overcast	W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 37° 18', W. 76° 11'...		30 24‡	768.1‡	47	8.3		WSW			3		10		WSW		Smooth		Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford																			
Philadelphia, Pa.....†		30 18‡	766 6‡	42	5.6	91	WSW			1		0						Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent																			
Liverpool, Eng		30.78‡	781.8‡	35	1.7		SSE			2		8		SSE	0			Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

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

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undütsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer, Bremerhaven, Germany		30.08‡	779.8‡				NNE			3		10		N				Rain & fog.	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, San Francisco, Cal....†		29.86‡	758.2‡	47	8.3	79	W			4		10						Raining	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.....†		30.02‡	762.5‡	59	15.0		Var.			5		9		NE	Considerable	Smooth		Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall, or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 29° 27′, E. 167° 25′ †		29.90‡	759 4‡	68	20.0	34	WNW			5		10		NW	0	Very Heavy	NW	Threatening	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z. alandia, R. C. Ghest. S. 19° 00′, W. 173° 02′		29 91‡	759 7‡				Var.			1				E		Smooth	SE	Fine	

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

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President, Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Adale Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 31° 20′, W. 39° 45′		30.14‡	765.5‡	72	22.2		ESE			5		2		ESE		Mod'ate	ESE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 37° 05′, W. 69° 40′ †		30.25‡	768 3‡	67	19.4		NW			4		10		NW	0	Smooth	NE	Squally	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.
Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.
Isotherms in *red* exhibit temperature of air, similarly charted.
Broken or dotted lines indicate that the lines so broken are doubtful.
Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 11, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.33	770.3				NE			1		0			0	0	Clear	
Nemours			30.35	770.9	59.0	15.0	66	N			2		0			0	0	Clear	Kesxuche.
Algiers			30.37	771.4	57.9	14.4	60	NNE			2		0			0	0	Clear.	Tourillere.
La Calle			30.37	771.3	55.0	12.8	77	WSW			2		8			0.051	1.3	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.40	772.2															Herbin.
Tebessa			30.39	771.9															
Geriville			30.41	772.3	46.2	7.9	55	N			2		0			0	0	Clear.	Watrin.
Laghouat								SE			1		0			0	0	Clear	Brugnlaux.
Biskra			30.47	773.9	48.0	8.9	52	W			2		0			0	0	Clear	Bertrand.
			30.41	772.3	57.6	14.2	76	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram																			Prof. Ivan Stozir.
Cracow, I. R. Observatory	30.00	761.9	30.59	776.9	29.7	— 1.3	82	N			2	8				0	0		Dr. Wierzbicki.
Eperies	29.85	758.1	30.68	779.2	25.5	— 3.6	95	N	0.2	0.1		10				0	0		Julius Mikolik.
Gratz	29.63	752.7	30.60	777.1	21.0	— 6.1	77	N			2	10ks				0	0		Andreas Rospini.
Hermannstadt	29.29	744.0	30.63	778.1	29.8	— 1.2	86	SE			3	8				0	0		Prof. A. Gottschling
Kremsmünster	29.00	736.7	30.58	776.7	16.9	— 8.4	82	NW			1	0				0	0		Prof. C. Wagner.
Lemberg	29.20	741.6	30.65	778.4	27.3	— 2.6	85	ENE			2	10				0.071	1.8		Prof. T. Stanecki.
Pola	29.48	748.9	30.58	776.6	18.1	— 7.7	95	NW			1	9				0.008	0.2		Dr. T. Stanecki.
Seathmar	30.35	770.8	30.47	773.8	38.5	3.6	43	ENE			3	5				0	0		I.R.Hydrographic Office
Segedin	30.11	764.8	30.62	777.8	16.5	— 8.6	86	E			2	0				0	0		Pet. Pancsics, S. J.
Triaste	30.29	769.3	30.59	777.0	25.2	— 3.8		N			3	6				0	0		Karl Stancel.
Vienna	30.40	772.1	30.50	774.7	36.1	2.3	59	ENE			3	2				0	0	Almost clear	P. Busin.
	29.88	758.9			30.2	— 1.0		WNW			2					0	0		I.R.Central Met. Ob'sy.

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes	30.37	771.3	30.68	776.7	35.4	1.9	71	E								0	0		M. E. de Cae.
Maeseyck	30.57	776.4	30.59	777.0	35.4	1.9	81	SE			1	0				0	0		M. Pierrot.
	30.49	774.4	30.61	777.6	36.1	2.3	92	E			2	0				0	0		

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

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BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instru-m't'al error and temperature. Inches.	Barometer. Corrected for instru-m't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.54	775.7	30.64	778.2	36.0	2.2	.....	SSW	12	5.4	.....	.....	3	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh, (Observatory)	30.32	770.1	30.56	776.2	39.8	4.3	.....	ESE	5	2.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.59	777.0	37 0	2.8	.....	ESE	14	6.3	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	30.03	762.7	30.57	776.5	37.2	2.9	.....	ESE	6	2.7	.....	.....	0	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.79	756.7	29.82	757.4	80	26.7	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.50	774.7	30.60	777.2	37.0	2.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.58	776.7	36.6	2.6	.....	E	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.42	772.7	30.56	776.2	31.2—	0.4	.....	E	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Geo. Stuart, Q. M. S'gt
Dunfermline	30.54	775.7	30.58	776.7	42	5.6	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.51	774.9	30.55	776.0	36	2.2	.....	E	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	30.21	767.3	30.44	773.2	42.0	5.6	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.77	705.4	29.99	761.7	72.0	22.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.43	772.9	41	5.0	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.41	772.4	30.62	777.7	56.8	2.7	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.60	777.2	30.61	777.5	36	2.2	.....	ESE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.39	771.9	30.57	776.5	35.1	1.7	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	30.21	767.3	30.44	773.2	36.5	2.5	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Misty	Dr. S.E Hoskins, F.R.S.
Helston	30.54	775.7	30.66	778.7	43	6.1	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Very gloomy	M. P. Moyle.
Holyhead	30.48	774.2	30.55	776.0	37	2.8	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.19	766.8	30.50	774.7	35.6	2.0	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.53	775.4	30.57	776.5	35.8	2.1	.....	ENE	20	8.9	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester (Museum)	30.33	770.4	30.60	777.2	35.2	1.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.16	766.1	30.24	768.1	57	13.9	.....	NW	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.47	773.9	30.57	776.5	35	1.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.12	765.0	74.5	23.6	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.43	772.9	30.63	778.0	34.8	1.6	.....	ESE	.....	.....	3	.....	10k	.....	ESE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.05	763.3	30.60	777.2	34.1	1.2	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Bellamy.
Plymouth	30.38	771.6	30.46	773.7	41.0	5.0	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	30.38	771.6	30.46	773.7	44	6.7	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.33	770.4	30.50	774.7	39	3.9	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.58	776.7	40.9	4.9	.....	S	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.25	768.3	30.32	770.1	28.6—	1.9	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Serg't W. H. Lyne.
Sheffield	30.54	775.7	.....	.....	34.8	1.6	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.57	776.5	30.60	777.2	39.8	4.3	65	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.60	777.2	37.0	2.8	.....	E	14	6.3	.....	.....	.....	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	36.9	2.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.38	771.6	30.45	773.4	43	6.1	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.36	771.1	30.38	771.6	45.4	7.4	.....	SE	23	10.3	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.79	756.7	29.83	757.7	96.0	35.6	30	S	27.1	12.1	.....	0	0	.....	.....	0	0	Hazy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.64	651.2	.....	.....	81	27.2	.....	N	.....	.....	.....	2c	4kn	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.76	679.7	.....	.....	85	29.4	.....	SE	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	30.20	767.	59.9	15.5	.....	SE	.....	.....	Slight	.....	Slight	.....	.....	0	0	Fine	Horace Witherell.
Leith(RestalrigPark)Se't'd	.....	.....	30.62	777.7	36.9	2.7	.....	S	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	761.0	80.0	26.7	59	NE	11.5	5.1	.....	3	4	W	ENE	0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.94	760.5	30.03	762.7	62.0	16.7	75	Calm	0	0	.....	.....	1	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.53	775.4	42	5.6	.....	S	.....	.....	4	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.54	775.7	.....	.....	.....	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palm as uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instru-m't'al error and temperature. Inches.	Barometer. Corrected for instru-m't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.34‡	745.2‡	54	12.2	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 30′, W. 9° 10′	.....	.....	30.35	770.9	46	7.8	.....	SE	.....	.....	4	.....	10	.....	.....	3	SSE; NNE	Overcast	Capt. A. J. Brown.
City of Cashmere, S. 52° 47′, W. 96° 35′	.....	.....	29.32‡	744.7‡	46.8	8.2	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 33° 40′, W. 57° 17′	.....	.....	30.36‡	771.1‡	68.7	20.4	.....	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Capt. Jas. Buchan.
S. S. Decapolis, N. 44° 39′, W. 19° 36′	.....	.....	29.84‡	757.9‡	54.5	12.5	.....	SE	.....	.....	6	.....	10	.....	.....	Con-fused	.....	Showery	.....
Barque Fedalma, N. 40° 30′, W. 32° 20′	.....	.....	29.89	759.2	55	12.8	.....	NNE	.....	.....	2	.....	5	.....	.....	5	N	D. clouds	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony	.....	.....	29.88‡	758.9‡	73	22.8	.....	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, New Providence, Bahama Islands	.....	.....	30.12	765.0	74	23.3	.....	ENE	.....	.....	5	.....	3	.....	.....	3	.....	Misty	.....
S. S. Strathleven, N. 23° 10′, E. 36° 55′	.....	.....	29.96	761.0‡	69.5	20.8	.....	N	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Campbell.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.19	665.2	29.91	759.7	58.1	14.5	83	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

DANISH SERIES.

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

Copenhagen	30.00	777.3	30.05	778.5	54.2	1.2	96	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Fardö	30.09	779.4	30.71	770.9	35.8	2.1	96	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.05	763.3	30.10	764.4	32.0	0.0	89	E	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Thorshavn (Fardö)	30.32	770.2	30.36	771.1	44.6	7.0	78	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	30.56	776.1	30.67	778.9	36.5	2.5	89	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.94	760.5	30.49	774.5	32.0	0	93	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Collignon, Director.
Amiens, Normal School	30.43	772.9	30.54	775.8	38.8	3.8	55	E	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Vaillant, Director.
Arras, Engin'r School	30.26	768.5	30.53	775.5	35.2	1.8	73	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.40	772.2	30.48	774.2	41.0	5	35	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.91	759.8	30.50	774.8	35.8	2.1	71	SE	.....	.....	1	.....	8km	.....	.....	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	30.25	768.4	30.54	775.6	34.7	1.5	74	E	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.61	752.0	30.57	776.5	25.9	— 3.4	.....	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.14	765.6	30.34	770.6	40.5	4.7	70	SW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.61	752.0	30.52	775.1	26.6	— 3	96	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.84	758.0	30.44	773.1	29.8	— 1.2	96	E	.....	.....	2	.....	10a	.....	NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.19	766.7	30.43	772.9	32.4	0.2	86	E	.....	.....	1	.....	10	.....	E	0	0	Misty	Ch. de Kermaree, Dir.
Caen, Normal School	30.41	772.4	30.49	774.4	36.3	2.4	86	SSE	.....	.....	1	.....	5	.....	ESE	0	0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.93	760.1	30.35	771.0	45.7	7.6	66	NNE	.....	.....	1	.....	5	E	E	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	30.20	767.0	30.54	775.6	35.6	2.0	96	SE	.....	.....	1	.....	8	SE	SE	.....	.....	Very cloudy	Jadot, Director
Chartres, Normal School	29.86	758.4	30.46	773.7	32.0	0	79	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.02	737.0	30.48	774.2	23.0	— 4.6	100	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.61	752.1	30.53	775.4	33.6	0.2	85	E	.....	.....	3	.....	5k	E	E	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.31	744.4	30.45	773.4	47.8	8.8	66	NE	.....	.....	1	.....	2	.....	NE	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.70	754.4	30.53	775.4	30.0	— 1.1	.....	ESE	.....	.....	1	.....	2s	.....	W	0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.21	767.3	30.44	773.2	34.0	1.1	76	NE	.....	.....	1	.....	5	.....	NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	30.16	766.1	30.49	774.5	33.8	1	79	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.56	750.7	30.53	775.5	21.9	— 5.6	67	NE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.34	770.5	30.45	773.3	34.5	1.4	89	ENE	.....	.....	3	.....	8	.....	SE	0	0	¾ covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.84	757.8	30.50	774.6	32.4	0.2	71	ESE	.....	.....	1	.....	10	.....	.....	0	0	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.16	766.0	30.43	772.9	54.5	12.5	59	SSW	.....	.....	1	.....	4	.....	SE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.33	745.0	30.44	773.2	31.6	— 0.2	88	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	25.03	635.8	30.35	770.8	39.2	4.0	43	SW	21.3	9.5	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.38	771.7	30.41	772.5	52.5	11.4	68	SW	.....	.....	1	.....	1	S	SW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.24	768.2	30.40	773.6	45.5	7.5	59	N	.....	.....	1	2c	.....	.....	W	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	30.22	767.5	.....	.....	33.8	1.0	85	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.28	769.0	30.39	771.0	47.3	8.5	78	NE	7.4	3.3	.....	.....	5	NE	NE	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.64	575.1	.....	.....	31.1	— 0.5	.....	.....	.....	.....	.....	.....	.....	.....	WSW	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.37	746.0	30.51	775.0	32.9	0.5	.....	.....	.....	.....	.....	.....	10	NE	NE	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	25.36	644.1	.....	.....	38.8	3.8	36	WNW	.....	.....	1	.....	2	.....	.....	0	0	¼ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.39	771.9	30.42	772.7	33.8	1.0	89	NE	.....	.....	3	.....	8	NE	NE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.41	772.5	30.50	774.7	36.8	2.1	73	E	.....	.....	1	.....	10	.....	E	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.41	772.4	30.44	773.2	36.0	2.2	68	ESE	.....	.....	3	.....	8	ESE	ESE	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.34	770.5	30.50	774.7	33.1	0.8	79	E	.....	.....	1	.....	10	.....	E	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.23	742.4	30.33	770.3	51.8	11	63	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.67	753.7	30.41	772.3	44.2	6.8	88	SE	.....	.....	2	.....	1	SE	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.26	768.5	30.45	773.5	30.2	— 1.0	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Misty	Cousin-Marquet.
Versailles, Observatory	29.98	761.5	30.47	774.0	32.4	0.2	.....	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.80	757.0	30.56	776.2	35.6	2.0	93	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	29.80	757.0	29.83	757.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai)	30.32	770.0	30.34	770.6	38.3	3.5	80	NE	8.5	3.8	.....	.....	10	.....	.....	0.008	0.2	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.75	755.6	30.03	777.9	31.3	— 0.4	85	NE			6		4k	NE		0	0		Prof. Dr. Hoh.
Berlin	30.52	775.1	30.70	779.7	34.7	1.5	76	N			2		7			0	0		Prof. Dr. Arndt.
Breslau	30.12	765.1	30.67	778.9	31.1	— 0.5	94	WNW			1		10			0	0		Royal University Obs'y.
Carlsruhe	30.12	765.1	30.58	776.7	45.5	7.5	72	E			1		10	NE		0	0		Albert Senz.
Cassel	30.09	764.3	30.71	780.0	31.6	— 0.2	70	ENE			2		7	E		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.32	770.2	30.71	780.0	35.6	2.0	48	NE			2		2			0	0		Physical Society.
Friedrichshafen	29.04	737.6	30.56	776.3	30.9	— 0.6	67	ENE			1		9	NNE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.69	779.4	30.76	781.2	32.9	0.5	82	Calm			0		8			0	0		Dr. Reinhold Kleeman.
Kiel	30.71	779.9	30.72	780.3	34.9	1.6	84	NE			1		9			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.48	774.3	30.57	776.5	29.3	— 1.5	90	NW			2		9			0	0		Prof. E. Luther.
Köslin			30.64	778.3	33.8	1.0		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	30.29	769.4	30.74	780.9	32.0	0.0	67	ENE			1		10	E		0.016	0.4		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.51	775.0	30.75	781.0	35.4	1.9	63	E			1		9ks			0.020	0.5		Dr. Assmann.
Memel	30.50	774.6	30.54	775.8	31.3	— 0.4	98	WSW			2		10ks						Reinbrecht & Issermann.
Munich (München)	28.67	728.3	30.56	776.2	26.8	— 2.9	80	E			6		10					Drizzling	Dr. C. Lang.
Neufahrwasser	30.59	777.0	30.61	777.4	34.3	1.3	87	WSW			1		10			0.008	0.2		A. Lothes.
Neustadt (Palatinate)	30.04	763.1	30.58	776.8	34.5	1.4	94	Calm			0		10			0	0		Reallehrer Dicknether.
Posen	30.34	770.7	30.65	778.5	33.3	0.7	83	NW			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.1	30.59	777.0	34.3	1.3	76	N			1		1			0	0		Imp. University Observatory.
Stuttgart	29.58	751.3	30.58	776.7	33.8	1.0	79	SE			1		9	E		0	0	Hazy	Prof. Dr. Schoder.
Thorn	30.48	774.2	30.67	779.1	33.4	0.8	82	Calm			0		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	29.06	738.2	30.67	779.1	29.3	— 1.5	81	E	3.8	1.7			10		E	0	0	Light fog	Reallehrer J. Hopfner
Wustrow	30.69	779.4	30.71	780.0	32.7	0.4	100	WSW			5		10s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.86	758.5	30.27	768.9	42.4	5.8		NE			1.0		10					Covered	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.85	758.3	29.91	759.6	74.9	23.8	69	WSW	15	6.7			0			0	0	Blue sky	
Deesa	29.45	748.0	29.93	760.2	74.7	23.7	53	SW	6.1	2.7			0			0	0	Blue sky	
Bombay	29.89	759.3	29.93	760.3	72.7	22.6	78	NW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.03	712.0	29.89	759.2	78.4	25.8	24	WNW	10	4.5			0			0	0	Blue sky	
Belgaum	27.35	694.6	29.89	759.2	76.0	24.4	28	WSW	5	2.2			0			0	0	Blue sky	
Lahore	29.09	739.0	29.87	758.6	60.6	15.9	45	Calm	0.3	0.1			0			0	0	Blue sky	
Roorkee	28.92	734.6	29.86	758.3	60.8	16.0	55	Calm	2.0	0.9			0			0	0	Blue sky	
Agra	29.30	744.1	29.88	758.9	68.7	20.4	45	Calm	3.7	1.6			0			0	0	Blue sky	
Nagpur	28.82	731.9	29.87	758.6	76.8	24.9	24	SE	1.8	0.8			0			0	0	Blue sky	
Jubbulpore	28.49	723.7	29.87	758.7	75.3	24.1	33	NE	1.6	0.7			0			0	0	Blue sky	
Lucknow	29.49	749.0	29.88	758.8	66.6	19.2	33	Calm	0.2	0.1			0			0	0	Blue sky	
Allahabad	29.57	751.1	29.89	759.3	63.8	17.7	59	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.70	754.4	29.89	759.1	67.4	19.7	55	W	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.82	706.7	29.89	759.1	64.8	18.2	50	WNW	4.9	2.2			0			0	0	Blue sky	
Cuttack	29.78	756.3	29.86	758.5	72.0	22.2	60	Calm	0.4	0.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.84	757.9	29.86	758.4	64.9	18.3	67	Calm					0			0	0	Blue sky	
Goalpara	29.50	749.2	29.90	759.4	64.2	17.9	76	NE	4.8	2.2			0			0	0	Misty	
Chittagong	29.79	756.6	29.88	759.0	69.8	21.0	84	WNW	3.9	1.7			0			0	0	Misty	
Sibsagar	29.59	751.6	29.94	760.5	62.9	17.2	92	WNW	1.6	0.7			8	SSW	SSW	0	0	D clouds	

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

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.08	763.9	30.51	775.0	35.1	1.7	71	SE	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.96	761.0	30.52	775 1	32.0	0.0	81	WNW	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.40	772.1	30.52	775.1	37.9	3.3	60	ENE	4.3	1.9	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.55	750.5	30.48	774.3	28.4	— 2.0	71	ENE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.24	768.0	30.44	773.1	47.8	8.8	45	NE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.49	723.7	30.52	775.1	34.2	1.2	64	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.44	773.2	30.49	774 5	35.2	1.8	71	NW	10.9	8.9	.....	.....	10	N	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.18	766.5	30.45	773.4	45.5	7.5	49	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.34	770.7	30.43	773.0	47.5	8.6	45	ENE	8.7	3 9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.19	766.7	30.37	771.3	48.9	9.4	47	N	8.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.03	762.8	30.30	769.6	46.2	7.9	47	ENE	19.2	8.6	.....	.....	3	NE	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.40	746.8	30.33	770.3	46.4	8.0	68	NW	0	0	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.12	765.1	30.33	770.3	52.5	11.4	31	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.07	763.6	30.32	770.1	52.9	11.6	52	NNW	5.6	2.5	.....	.....	5	NNW	.....	0.063	1.6	.....	Prof. G. Ciacciatore.
Syracuse	30.23	767.9	30.27	768.9	52.0	11.1	59	NE	6.3	2.8	.....	.....	3	E	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.80	757.0	30.35	770.8	47.8	8.8	51	NE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.17	766.3	30.18	766 6	36.0	2.2	73	NNE	4.8	2.2	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.03	762.7	30.24	768 1	37.1	2.8	76	NNE	0.8	0.4	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.88	758.9	29.95	760.7	36.5	2.6	62	NNW	9.7	4.3	.....	2cs	.....	.....	.....	0	0	Fair	The Staff.
Wakayama	30.08	764.0	30.14	765.5	40.7	4.8	64	NW	9.4	4.2	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.05	636.3	30.28	769.1	39.2	4.0	52	SW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. L. Perez.
Leon	24.45	620.9	30.32	770.1	45.1	7.3	75	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.74	755.3	30.00	762.0	68.2	20.1	80	SE	.....	.....	1	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.05	585.5	30.20	769.3	39.6	4.2	47	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.06	611.0	.....	.....	56.8	13.8	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	23.93	607.8	30.09	764.2	37.9	3.3	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.55	598.1	30.64	778.3	35.6	2.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.1	30.32	770.2	41.4	5.2	57	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	29.99	761.8	30.00	762.1	66.9	19.4	92	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.98	761.6	30.01	762.3	68.0	20.0	86	Calm	0	0	.....	2k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.55	572.7	30.23	767.7	51.8	11.0	42	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.6 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,169 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.61	777.5	30.61	777.5	36.3	2.4	.....	E	.....	.....	4	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	30.67	779.0	30.73	780.4	33.6	0.9	.....	E	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.68	779.2	30.68	779.2	34.0	1.1	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.62	777.7	30.62	777.7	35.1	1.7	77	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.21	767.3	30.65	778.5	36.1	2.3	68	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.56	776.3	30.62	777.7	38.5	3.6	87	Calm	0	0			8			0.047	1.2		
Brönö	30.37	771.3	30.41	772.3	41.0	5.0	94	SW	36	16			10			0.157	4.0	Raining	
Christiana	30.49	774.5	30.65	778.5	23.2	— 4.9	95	Calm	0	0			0			0	0		
Tromsö	29.85	758.1	29.89	759.2	40.3	4.6	82	SW	20	9			10			0.957	24.3	Raining	

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

PORTUGUESE SERIES.

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

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.31	744.5	30.34	770.7	50.7	10.4	60	ENE	4.9	2.2			2			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.06	763.5	30.15	765.7	63.0	17.2	57	SW	13.0	5.8			9			0.488	12.4		Capt. D. A. de Cunha.
Lisbon Observatory	29.95	760.8	30.32	770.2	51.3	10.7	74	ENE	6.3	2.8			4	S		0	0		The Staff.
Ponta Delgada (Azores)	29.80	757.0	29.87	758.8	51.1	10.6	72	WNW	3.8	1.7			3			0.287	7.3		

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

PORTUGUESE Naval Series. Vessels.	Sea or swel Height scale 0-9	Sea or swel Direction form—		
Bartholomew Dias				A. G. d Silva Costa, Com'd't.
D. Fernando				A. . . Sande, Com'd't.
Duque da Terceira				J. C M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa.				
Porto Praya, Cape Verdds.			D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello,				
St. Paul de Loando, Gulf of Guinea.			D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	2	N	Overcast	J. G. Felgo, 2nd Lieut.

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	30.33	770.3	30.35	770.8	— 0.8	—18.2	85	S	2	1			0						Capt. Sseliwerstow.
Astrakhan	30.34	770.7	30.26	768.6	26.1	— 3.3	66	NW	7	3			10n					Heavy clouds	Capt. Wisganow.
Barnaul	29.86	758.4	30.43	772.9	— 6.7	—21.5	97	Calm	0	0			0						Meteorological Obs.
Dorpat	30.13	765.2	30.39	771.8	31.1	— 0.5	100	NW	7	3			10n						Prof. Dr. Weihrauch.
Ekaterinburg	29.19	741.3	30.26	768.7	— 0.6	—18.1	91	Calm	0	0			10					Light snow.	Meteorological Obs.
Irkutsk																			
Kasan	30.08	764.0	30.39	771.8	0.5	—17.5	98	Calm	0	0			10					Light snow.	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.79	756.6	30.50	774.6	8.8	—12.9	96	NNW	9	4			10kcn					Snowing	Physical Cabinet.
Krotkowo*	29.85	758.3	30.41	772.3	—12.6	—24.8	68	W	0	0			7						Cand. Fatjanow.
Lugan	29.82	757.4	30.04	763.0	15.6	— 9.1	85	NNW	13	6			10			Blank	Blank		Meteorological Obs.
Moscow	29.91	759.6	30.08	779.3	4.1	—15.5	81	N	4	2			10s						Meteorological Obs.
Nertchinsk	28.08	713.1	30.74	780.7	—15.3	—26.3	75	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.37	771.3	30.44	773.1	12.0	—11.1	79	NNW	13	6			7cs						Kurdakof.
Nukuss	29.87	758.7	30.11	764.9	32.4	0.2	96	Calm	0	0			1ks						
Orenberg																			
Pekin (China)	30.27	768.8	30.41	772.4	20.5	— 6.4	50	Calm	0	0			0						Physical Observatory.
St. Petersburg	30.34	770.6	30.35	771.0	21.9	— 5.6	96	NE	7	3			10n						Central Physical Obs.
Tashkend	28.60	726.4	30.24	768.2	35.2	1.8	96						0						Teich, A. M.
Tiflis	28.77	730.7	30.26	768.6	33.4	0.8	53	NW	9	4			3ks						Physical Observatory.
Vladivostock																			
Warsaw	30.15	765.7	30.60	777.3	27.1	— 2.7	77	N	7	3			7ks						Astronomical Obs.
Wilna	30.10	764.5	30.56	776.1	17.8	— 7.9	78	SSW	4	2			10						Astronomical Obs.
Yeniseisk	30.21	767.2	30.53	775.5	— 5.1	—20.6	84	E	11	5			6					Snowing	Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.24	768.2	30.35	770.9	49.5	9.7	54	E	1.4	0.61			2			0	0	Solar halo	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.29	769.3	30.35	770.8	49.1	9.5	74	E	3.4	1.53		2	6	W		0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.34	694.4			38.3	3.5	88	S	4.5	2.01		0	6			0.157	4.0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.10	713.6	30.43	772.8	41.0	5.0	75	N	0.7	0.33		1	1			0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.23	767.8	30.38	771.7	54.5	12.4	68	SW	1.4	0.61		0	3			0.017	0.42	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.33	745.0	30.24	768.0	55.6	13.1	65	SSE	3.8	1.7		3	0			0.016	0.4	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.04	762.9	30.10	764.6	68.1	20.1	87	ENE	1.3	0.6		0	3ks		ENE	0	0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.83	757.7	29.88	759.0	81.2	27.3	77	ESE	4.5	2.0						0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.22	767.7	30.32	770.2	58.5	14.7	59	ESE	6.8	3.0		0	7		ESE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.57	751.1	29.90	759.4	70.9	21.6	98	W	0	0		0	2k		W	0.059	1.50	Clear	Enrique Gadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.29	769.4	30.33	770.4	18.0	— 7.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.33	770.3	30.38	771.6	27.3	— 2.6	96	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	30.42	772.6	30.47	773.9	32.0	0.0	92	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Stockholm	30.41	772.5	30.59	777.0	30.2	— 1.0	88	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	30.44	773.1	30.70	779.6	32.4	0.2	96	NNW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.44	773.2	30.53	775.4	31.6	— 0.2	89	NW	4.0	1.8	.....	.....	4	NNE	.....	0.008	0.21	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.36	738.1	30.56	776.3	29.1	— 1.6	79	NNW	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.84	732.5	30.57	776.4	28.8	— 1.8	74	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.4 mm.; Thermometer, —2.9 Cent.; Relative Humidity, —1 per cent

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.38	771.6	28.8	— 1.8	93	N	7	3.0	.....	.....	10	.....	N	.....	.....	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.20	767.1	48.0	8.9	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.07	763.8	57.0	13.9	65	S	.....	.....	2	.....	7n	.....	SW	0.05	1.3	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	30.35	770.9	30.42	772.7	6.8	—14.0	88	W	7	3.1	.....	0	0	.....	.....	0.09	2.3	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.20	768.6	30.30	769.6	13.0	—10.1	73	NW	11	4.9	.....	0	0	.....	.....	0.03	0.8	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.17	766.3	30.38	771.6	8.0	—13.3	91	E	.....	.....	4	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.18	766.6	30.30	771.1	0.5	—17.5	.....	W	3	1.3	.....	0	0	.....	.....	0.20	5.1	Clear	H. A. Johnson.
Father Point, Quebec	30.55	776.0	30.57	776.5	3.5	—15.8	60	NW	5.0	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	J. McWilliams.
Fredericton, N. B	30.44	773.2	30.51	774.9	7.1	—13.8	56	NW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.17	740.9	30.14	765.5	—21.0	—29.4	100	W	18	8.0	.....	0	0	.....	.....	0.10	2.5	Clear	James Stewart.
Granton, Ontario	28.83	732.3	29.95	760.7	39	3.9	.....	SE	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	30.22	767.6	30.36	771.1	21.9	— 5.6	86	NW	10	4.5	.....	0	0	.....	.....	0.05	1.3	Clear	A. Allison.
Hamilton, Ontario	29.73	755.1	30.11	764.8	34.9	1.6	88	E	.....	.....	1	10cs	0	NE	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.86	758.4	30.21	767.3	23.8	— 4.6	87	E	9	4.0	.....	2ck	0	.....	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.04	763.0	30.08	764.0	24.0	— 4.4	87	NW	5	2.2	.....	3k	0	NW	.....	0.12	3.0	Fair	C. H. Rigby.
Montreal, Quebec	30.28	769.1	30.50	774.7	4.7	—15.2	75	SE	12	5.4	.....	.....	9s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.72	754.9	29.76	755.9	18.0	— 7.8	70	S	.....	.....	5	.....	10	.....	.....	0	0	Cloudy	J. R. Nrson.
Norwood	29.43	747.5	30.17	766.3	20.3	— 6.5	97	E	8	3.6	.....	10k	0	E	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.23	742.4	29.95	760.7	30.0	— 1.1	78	SE	32	14.3	.....	5k	5ks	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.32	744.7	30.03	762.7	42.9	6.1	67	S	7	3.1	.....	10k	0	SW	.....	0	0	Cloudy	H. Morgan.
Port Stanley, Ontario	29.32	744.7	29.98	761.5	40.6	4.8	72	SE	32	14.3	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy	M. Payne.
Quebec, Quebec	30.23	767.8	30.60	777.2	4.0	—16.6	62	W	.....	.....	3	0	0	.....	.....	0.02	0.5	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.30	769.6	30.49	774.4	12	—11.1	80	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.12	739.6	29.84	757.9	41.0	5.0	65	SE	38	17.0	.....	.....	9ks	.....	.....	0	0	Cloudy	K. Stewart.
Stratford, Ontario	28.60	726.4	29.91	759.7	55.0	1.7	86	SE	10.0	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.04	763.0	30.09	764.3	24.0	— 4.4	67	W	7	3.1	.....	0	9ks	.....	.....	0.14	3.6	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.70	754.4	30.09	764.3	36.2	2.3	90	E	17	7.6	.....	.....	9ks	.....	.....	Inap.	Inap.	Cloudy	Magnetic Observatory
Windsor, N. S	30.37	771.4	30.47	773.9	20.5	— 6.4	93	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.89	733.8	30.09	764.3	38.2	3.4	86	E	9	4.0	.....	.....	10s	.....	SW	0	0	Overcast	Prsfessor Wolverton.
Yarmouth, N. S	30.30	769.6	30.47	773.9	24.3	— 4.3	69	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.57	751.1	29.83	757.7	33	0.6	.....	W	.....	.....	.....	10k	10s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.84	757.9	24.8	— 4.0	.....	NW	.....	.....	3	.....	n	.....	.....	0	0	Cloudy	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,115 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.26	768.6	30.51	774.9	19	— 7.2	85	NW	4	1.8		0	0			0	0	Clear	
Alpena, Michigan	29.02	737.1	29.66	753.4	36	2.2	80	SE	24	10.7			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.06	738.1	30.20	767.1	61	16.1	94	SE	12	5.4			10s		Calm	0.02	0.5	Cloudy	
Atlantic City, New Jersey	30.43	772.9	30.45	773.4	44	6.7	84	E	12	5.4		5k	0	W		0	0	Fair	
Augusta, Georgia	30.12	765.0	30.32	770.1	61	16.1	94	Calm	0	0			10n		Calm	Inap.	Inap.	Light rain	
Baltimore, Maryland	30.40	772.1	30.45	773.4	38	3.3	63	NE	5	2.2		0	0			0	0	Clear	
Barnegat, New Jersey	30.42	772.7	30.45	773.4	43	6.1	92	E	11	4.9		2ck	5s	W	W	0	0	Fair	
Bismarck, Dakota	28.31	719.1	30.17	766.3	—16	—26.7	100	NW	16	7.2		0	0			0.02	0.5	Clear	
Boerne, Texas	28.45	722.6	29.73	755.1	62	16.7	94	SE	15	6.7		0	5ks		S	0	0	Fair	
Boise City, Idaho	27.31	693.7	30.27	768.8	28	— 2.2	77	NW	10	4.5		0	5s		Calm		0	Fair	
Boston, Massachusetts	30.36	771.1	30.53	775.4	27	— 2.8	53	Calm	0	0		0	0				0	Clear	
Brackettville, Texas	28.70	729.0	29.73	755.1	62	16.7	88	E	10	4.5		0	5s		E	Inap.	Inap.	Fair	
Breckenridge, Minnesota	29.03	737.3	30.18	766.6	—12	—24.4	100	NW	20	8.9		0	0			0	0	Clear	
Brownsville, Texas	29.87	758.7	29.92	760.0	70	21.1	95	S	12	5.4		0	0			0	0	Clear	
Buffalo, New York	29.35	745.5	30.06	763.5	46	7.8	47	S	8	3.6			10s		SW	Inap.	Inap.	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	30.17	766.3	30.48	774.2	22	— 5.6	72	SE	2	0.9		8ck	0	W		0	0	Fair	
Cairo, Illinois	29.51	749.5	29.89	759.2	55	12.8	78	SW	28	12.5			10ks		SW	0	0	Threatening	
Campo, California	27.48	698.0	30.05	763.3	28	— 2.2	88	E	2	0.9		0	0			0.24	6.1	Clear	
Cape Hatteras, N. Carolina	30.34	770.6	30.34	770.6	54	12.2	93	NE	12	5.4		0	2s		NE	0.02	0.5	Clear	
Cape Henry, Virginia	30.36	771.1	30.38	771.6	50	10.0	86	NE	6	2.7			10s		E	0	0	Cloudy	
Cape Lookout, N. Carolina	30.32	770.1	30.34	770.6	53	11.7	86	N	13	5.8		Haze	2s	Calm	Calm	0	0	Dense haze	
Cape May, New Jersey	30.42	772.7	30.45	773.4	41	5.0	91	E	10	4.5		2k	0	W		0	0	Fair	
Castroville, Texas	29.10	739.1	29.79	756.7	64	17.8	89	SE	6	2.7			10s		SE	0	0	Cloudy	
Cedar Keys, Florida	30.21	767.3	30.23	767.8	64	17.8	94	E	5	2.2		0	0			0	0	Clear	
Charleston, South Carolina	30.25	768.3	30.31	769.9	60	15.6	94	E	6	2.7			10s		Calm	0	0	Threatening	
Charlotte, North Carolina	29.47	748.5	30.30	769.6	51	10.6	100	E	4	1.8			Fog		Calm	0.04	1.0	Foggy	
Chattanooga, Tennessee	29.37	746.0	30.17	766.3	59	15.0	94	S	8	3.6			10s		S	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	23.73	604.0	29.72	754.9	12	—11.1	61	W	40	17.9		0	0			0	0	Clear	
Chicago, Illinois	28.87	733.3	29.53	750.0	58	14.4	82	S	20	8.9			10s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.31	744.5	29.95	760.7	59	15.0	79	S	12	5.4		0	7s		SW	0	0	Fair	
Cleveland, Ohio	29.23	743.4	29.95	760.7	50	10.0	58	SE	16	7.2		2c	5ks	W	S	0	0	Cloudy	
Coleman City, Texas	28.03	711.9	29.66	753.4	55	12.8	81	SW	13	5.8		0	0			0	0	Clear	
Columbus, Ohio	29.14	740.1	29.96	761.0	54	12.2	74	S	14	6.3		10ck	0	S		0	0	Cloudy	
Concho, Texas	27.93	709.4	29.56	750.8	60	15.6	88	S			2	0	5ks		Calm	0	0	Fair	
Corsicana, Texas	29.41	747.0	29.86	758.4	67	19.4	79	S	10	4.5			10s		Calm	0	0	Cloudy	
Davenport, Iowa	28.82	732.0	29.42	747.3	55	12.8	81	S	22	9.8			10s		W	0.03	0.8	Cloudy	
Dayton, Washington T'y					26	— 3.3	64	W			1		10s		W	0.01	0.3	Cloudy	
Deadwood, Dakota	25.23	640.8			— 1	—18.3		NE	8	3.6			10s		Calm	0.18	4.6	Cloudy	
Decatur, Texas																			
Denison, Texas	29.05	737.9	29.82	757.4	65	18.3	84	S	17	7.6		0	5ks		S	0	0	Fair	
Denver, Colorado	24.64	625.8	29.86	758.4	27	— 2.8	53	SW	16	7.2		0	0			0	0	Clear	
Des Moines, Iowa	28.82	732.0	29.71	754 6	33	0.6	89	N	15	6.7			10s		N	0.03	0.8	Cloudy	
Detroit, Michigan	29.15	740.4	29.81	757.2	50	10.0	79	S	14	6.3			10s		S	0	0	Cloudy	
Dodge City, Kansas	27.38	695.4	29.74	755.4	34	1.1	16	N	24	10.7		2ck	2s	W	NW	0	0	Fair	
Dubuque, Iowa	28.92	734.6	29.62	752.3	40	4.4	82	NW	9	4.0			10s		Calm	0.09	2.3	Cloudy	
Duluth, Minnesota	28.94	735.1	29.64	752.8	25	— 3.9	87	NW	16	7.2			10n		NW	0.16	4.1	Light snow	
Eagle Pass, Texas	29.10	739.1	29.81	757.2	62	16.7	88	E	3	1.3		0	Fog		E	0	0	Foggy	
Eastport, Maine	30.43	772.9	30.50	774.7	14	—10.0	64	N	20	8.9		0	0			0.02	0.5	Clear	
Edinburg, Texas					69	20.6	90	E			4	0	0			0	0	Clear	
El Paso, Texas																			
Erie, Pennsylvania	29.32	744.7	30.04	763 0	46	7.8	47	S	18	8.0			10ks		SW	0	0	Cloudy	
Escanaba, Michigan	28.74	730.0	29.38	746.2	36	2.2	80	S	5	2.2			10s		S	0.38	9.7	Cloudy	
Florence, Arizona	28.47	723.1	30.07	763.8	37	2.8	90	Calm	0	0		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.06	712.7	30.19	766.8	—15	—26.1	71	NW	10	4.5		0	0			0	0	Clear	
Fort Custer, Montana	26.78	680.2			—10	—23.3	100	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.09	637.3	30.05	763.3	46	7.8	69	SW	1	0.4		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.22	742.2	29.73	755 1	67	19.4	74	S	12	5.4			10s		S	0	0	Cloudy	
Fort Grant, Arizona	25.15	638.8	29.95	760.7	38	3.3	46	W	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.55	725.2	29.78	756.4	63	17.2	74	S	8	3.6			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.36	694.9			—12	—24.4	49	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.60	701.0	29.48	748.8	55	12.8	87	S	12	5.4			10s		S	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.63	727.2	29.72	754.9	55	12.8	87	N	9	4.0			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.25	717.5			—15	—26.1	72	N	24	10.7		0	0			0	0	Clear	
Fort Verde, Arizona					32	0.0	79	W			4	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.04	712.2	29.54	750.3	63	17.2	83	S	16	7.2			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.96	761.0	30.00	762.0	67	19.4	95	S	4	1.8		0	2ks		S	0	0	Clear	
Graham, Texas	28.74	730.0	29.77	756.1	60	15.6	88	Calm	0	0		9cs	0	SW		0	0	Fair	
Grand Haven, Michigan	28.92	734 6	29.54	750.3	56	13.3	87	S	24	10.7			10s		SW	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.82	732.0	29.72	754.9	61	16.1	82	S	7	3.1		0	8s		S	0	0	Cloudy	
Indianapolis, Indiana	29.01	736.8	29.78	756.4	59	15.0	82	S	16	7.2			10s		SW	0	0	Threatening	
Indianola, Texas	29.94	760.5	29.97	761.2	67	19.4	95	S	9	4.0		0	0			0	0	Clear	
Jacksboro, Texas	28.69	728.7	29.78	756.4	63	17.2	83	E	2	0.9		0	0			0	0	Clear	
Jacksonville, Florida	30.23	767.8	30.26	768.6	58	14.4	94	E	8	3.6		0	Fog		Calm	0	0	Clear	
Keokuk, Iowa	28.87	733.3	29.45	748.0	59	15.0	88	SW	11	4.9			10p		SW	0.02	0.5	Light rain	
Key West, Florida	30.09	764.3	30.12	765.0	72	22.2	80	E	12	5.4		0	0			0.34	8.6	Clear	
Kittyhawk, North Carolina	30.36	771.1	30.38	771.6	51	10.6	93	NE	8	3.6		0	Fog		Calm	0	0	Clear	
Knoxville, Tennessee	29.17	740.9	30.19	766.8	50	10.0	97	SE	6	2.7		5k	5ks	SW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	28.74	730.0	29.46	748.3	41	5.0	82	N	10	4.5			10s		Calm	0.06	1.5	Cloudy	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	36	2.2	61	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.41	747.0	29.74	755.4	62	16.7	83	SE	7	3.1		0	0			0	0	Clear	
Leavenworth, Kansas	28.92	734.6	29.77	756.1	41	5.0	65	NW	14	6.3		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	29.57	751.1	29.92	760.0	66	18.9	84	S	11	4.9		10k	0	SW		0	0	Cloudy	
Los Angeles, California	29.75	755.6	30.10	764.5	42.5	5.8	71	NE	5	2.2		0	0			0.35	8.9	Clear	
Louisville, Kentucky	29.36	745.7	29.90	759.4	62	16.7	83	S	17	7.6			10s		S	0	0	Cloudy	
Lynchburg, Virginia	29.70	754.4	30.41	772.4	47	8.3	62	NE	1	0.4			10ks		Calm	0	0	Cloudy	
Madison, Wisconsin	28.40	721.3	29.34	745.2	52	11.1	86	S	20	8.9			10s		SW	0.06	1.6	Cloudy	
Marquette, Michigan	28.68	728.5	29.37	746.9	41	5.0	100	S	9	4.0			10n		Calm	0.31	7.9	Light rain	
Mason, Texas	28.22	716.8	29.93	760.2	62	16.7	88	S	8	3.6		0	2s		SW	0	0	Fair	
Memphis, Tennessee	29.64	752.8	29.98	761.5	65	18.3	78	SE	12	5.4			10s		S	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.71	729.2	29.40	746.7	52	11.1	86	S	24	10.7	.....	1ck	8s	S	S	Inap.	Inap.	Cloudy.	
Mobile, Alabama	30.11	764.8	30.16	766.1	57	13.9	100	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.98	761.5	30.22	767.6	58	14.4	96	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Morgantown, West Virginia	29.17	740.9	30.15	765.8	57	13.9	47	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Mt. Washington, N. H.	23.98	609.1	30.34	770.6	16	— 8.9	66	NW	24	10.7	.....	2c	0	Calm	.....	0	0	Clear.	
Nashville, Tennessee	29.54	750.3	30.06	763.5	64	17.8	78	SE	10	4.5	.....	.....	10ks	.....	SE	0	0	Cloudy	
New Haven, Connecticut	30.38	771.6	30.50	774.7	29	— 1.7	78	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
New London, Connecticut	30.46	773.7	30.51	774.9	31	— 0.6	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
New Orleans, Louisiana	30.07	763.8	30.13	765.3	63	17.2	83	SE	5	2.2	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Newport, Rhode Island	30.47	773.9	30.63	775.4	31	— 0.6	79	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	50	10.0	100	N	.....	.....	1	.....	Fog	.....	Calm	.....	.....	Dense fog	
New York, New York	30.32	770.1	30.50	774.7	35	1.7	70	NE	3	1.3	.....	2c	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.34	770.6	30.40	772.1	48	8.9	85	.....	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.01	686.0	29.69	754.1	25	— 3.9	62	NW	33	14.8	.....	0	c	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.19	766.8	30.24	768.1	30.0	— 1.1	94	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.72	729.5	29.85	758.2	33	0.6	70	N	27	12.1	.....	.....	10s	.....	N	0	0	Cloudy	
Oswego, New York	29.99	759.4	30.23	767.8	37	2.8	53	SE	20	8.9	.....	5c	0	Calm	.....	0	0	Fair	
Pembina, Dakota	29.13	739.9	30.10	764.5	—20	—28.9	100	NW	12	5.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Pensacola, Florida	30.16	766.1	30.20	767.1	64	17.8	100	E	4	1.8	.....	Haze	7ks	Calm	S	0	0	Fair	
Philadelphia, Pennsylvania	30.42	772.7	30.47	773.9	33	0.6	79	NE	8	3.6	.....	8ck	0	W	.....	0	0	Cloudy	
Phœnix, Arizona	28.70	751.3	30.64	778.2	43	6.1	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.34	440.4	29.55	750.6	—10	—23.8	54	NW	14	6.3	.....	0	0	.....	.....	0.02	0.5	Clear	
Pilot Point, Texas	29.10	739.1	29.90	759.4	65	18.3	94	SE	.....	.....	.....	5k	5s	SE	SE	0	0	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	14	—10.0	46	NW	7	3.1	.....	0	0	.....	.....	0.10	2.5	Cloudy	
Pittsburg, Pennsylvania	29.33	745.0	30.15	765.8	50	10.0	65	SE	2	0.9	.....	8ck	0	SW	.....	0	0	Fair	
Port Huron, Michigan	29.16	740.7	29.82	757.4	46	7.8	77	SE	18	8.0	.....	.....	10ks	.....	SE	0	0	Cloudy	
Portland, Maine	30.44	773.2	30.50	774.7	26	— 3.3	83	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.23	767.8	30.30	769.6	35	1.7	85	SW	3	1.3	.....	.....	10n	.....	.....	0.17	4.3	Light snow	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	93	NE	12	5.4	.....	1cs	0	Calm	.....	0	0	Clear	
Prescott, Arizona	24.68	626.9	30.04	763.0	31	— 0.6	89	.....	.....	.....	1	0	2ks	.....	Calm	0	0	Fair	
Punta Rassa, Florida	30.16	766.1	30.17	766.3	66	18.9	84	NE	10	4.5	.....	0	0	.....	.....	0.12	3.0	Clear	
Red Bluff, California	30.04	763.0	30.43	772.9	30	— 1.1	78	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	64	17.8	89	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.50	749.3	30.13	765.3	41	5.0	41	S	11	4.9	.....	5k	0	SW	.....	0	0	Fair	
Roseburg, Oregon	29.81	757.2	30.42	772.7	29	— 1.7	94	Calm	0	0	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Sacramento, California	30.27	768.8	30.35	770.9	34	1.1	79	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.14	740.1	29.70	754.4	61	16.1	77	S	19	8.5	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
St. Paul, Minnesota	28.85	732.8	29.69	754.1	31	— 0.6	79	NW	16	7.2	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	15	— 9.4	48	SE	4	1.8	.....	0	0	.....	.....	0 09	2.3	Clear	
San Antonio, Texas	29.25	742.9	29.81	757.2	66	18.9	84	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.04	763.0	30.12	765.0	44	6.7	92	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.24	742.7	29.90	759.4	54	12.2	80	S	16	7.2	.....	.....	10s	.....	SW	Inap.	Inap.	Threatening	
Sandy Hook, New Jersey	30.45	773.4	30.48	774.2	39	4.4	82	E	14	6.3	.....	5c	0	Calm	.....	0	0	Fair	
San Francisco, California	30.32	770.1	30.38	771.6	41	5.0	82	N	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Santa Fé, New Mexico	23.14	587.8	29.68	753.9	18	— 7.8	53	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.21	767.3	30.30	769.6	61	16.1	100	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	65	18.3	89	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.31	769.9	30.35	770.9	52	11.1	100	N	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	
Socorro, New Mexico	25.32	643.1	29.38	746.2	40	4.4	56	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	28.97	735.8	29.61	752.1	60	15.6	82	S	24	10.7	.....	.....	10ks	S	SW	0	0	Cloudy	
Springfield, Massachusetts	30.40	772.1	30.54	775.7	25	— 3.9	75	N	2	0.9	.....	2cs	0	NW	.....	0	0	Fair	
Stockton, Texas	26.80	680.0	29.86	758.2	44	6.7	30	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.48	774.2	30.54	775.7	39	3.9	73	NE	6	2.7	.....	5c	Haze	NW	.....	0	0	Fair	
Toledo, Ohio	29.12	739.6	29.79	756.7	51	10.6	86	SE	7	3.1	.....	.....	10s	.....	SW	0	0	Threatening	
Tucson, Arizona	27.50	698.5	30.05	763.3	42	5.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.90	759.4	30.42	772.7	31	— 0.6	89	SW	18	8.0	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Uvalde, Texas	29.02	737.1	29.83	757.7	62	16.7	94	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	64	17.8	94	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.05	610.9	29.53	750.0	10	—12.2	58	SW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.91	759.7	30.30	769.6	29	— 1.7	89	SE	1	0.4	.....	0	0	.....	.....	0.07	1.8	Clear	
Washington, D. C.	30.31	769.9	30.43	772.9	35	1.7	75	NE	3	1.3	.....	2cs	2s	Calm	SW	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	81	NW	.....	.....	1	0	5ks	.....	W	0	0	Fair	
Wilmington, North Carolina	30.27	768.8	30.35	770.9	51	10.6	93	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Threatening	
Winnemucca, Nevada	25.80	655.3	30.16	766.1	13	—10.6	81	SW	5	2.2	.....	0	2s	.....	Calm	0.05	1.3	Fair	
Wood's Holl, Massachusetts	30.49	774.4	30.53	775.4	33	0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.74	730.0	30.15	765.8	8	—13.3	78	N	22	9.8	.....	.....	10s	.....	N	0	0	Cloudy	
Yuma, Arizona	29.88	758.9	30.03	762.7	60	10.0	39	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.15	765.8	30.16	766.1	75	23.9	82	Calm	0	0	.....	2c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.85	758.2	29.93	760.2	76.5	24.7	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	80	26.7	78	E	.....	.....	2	5k	5s	.....	E	0.589	14 96	Fair	C. J. Hering.
Santiago de Cuba, W. I.	29.97	761.2	30.00	762.0	73	22.8	76	NNE	9.6	4.3	.....	0	2s	.....	NE	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.22	742.2	29.28	743.7	—34.0	—36.7	.....	W	32	14.3	.....	.....	10n	.....	W	0.30	7.6	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Caster, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,828 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.' Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,500 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,460 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,895.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.87 in., or 85.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.21 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm *Estimated.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15‡	765.8‡			67	19.4	95	SE	5	2.2			5		SE						Fair.
Navy Yard, Portsmouth, N.H.	30.45‡	773.4‡			34	1.1	90	W	2	0.9			2								Clear.
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡			39.5	4.2	44	N			3		3s;h'z		W	0	0				Fair.
Adams, Mare I'd., Navy Yard, Cal.	30.39‡	771.9‡			39	3.9	82	Calm			0		0								Clear.
Alaska, Arica, Peru	29.88‡	758.9‡			71	21 7	80	Calm			0		8								Hazy.
Colorado, New York, N. Y.	30.45‡	773.4‡			34	1.1	100	N	1	0.4			2			0	0				Clear.
Constitution, Frederickstoed, Santa Cruz, W. I.	29.84‡	757.9‡			77	25.0	86	NE			2		1		Calm						Clear.
Enterprise. Piraeus, Greece	30.27‡	768.8‡			45	7.2	84	NE			2		10		N			Smooth			Raining.
Franklin, Off Navy Yard, Norfolk, Va.	30.41‡	772.4‡			50	10.0	86	ENE	2.4	1.1			10		ESE	0	0				Cloudy.
Independence, Mare I'd, Navy Yard, Cal.	30.34‡	770.6‡			34	1.1	100	NW	1.2	0.5			0			0	0				Clear.
Kearsarge, Havana, Cuba	30.10‡	764.5‡			71	21.7	85	E			0–1		8		E			Smooth			Fair.
Lackawana, Honolulu, Sandwich Id's	30.07‡	763.8‡			71	21.7	95	Calm			0		0								Clear.
Marion, N. 5° 40′, W. 35° 00′	29.82‡	757.4‡			76	24.4	91	NNE			3		10		NE	Mod'ate	Mod'ate	Smooth	NNE		Raining.
Michigan, Erie, Pa.	29.97‡	761.2‡			48	8.9	78	S			4		10		S						Cloudy.
Monocacy, Shanghai, China	30.32‡	770.1‡			39	3.9	82	NE			1		10								Cloudy.
New Hampshire, Port Royal, S. C.	30.29‡	769.4‡			62	16.7	100	ENE	16	7.2			10		Calm	0	0				Foggy.
Nipsic, N. 18° 46′, W. 35° 13′	29.84‡	757.9‡			77	25.0	86	E			3		8		ESE			Long	E		D. clouds.
Onward, Callao, Peru †.	29.87‡	758.7‡			69	20.6	90	Calm			0		5					Mod'ate	W		Hazy.
Palos, Tientsin, China	30.41‡	772.4‡			28	— 2.2	88	SE			0–1		0								Clear.
Passaic, Washington, D. C.	30.43‡	772.9‡			34	1.1	90	NE			1		8		SW						Cloudy.
Pensacola, Callao, Peru	29.88‡	758.9‡			68	20.0	95	SE			0–1		8					Smooth			Hazy.
Powhatan, Navy Yard, Brooklyn, N.Y.	30.49‡	774.4‡			37	2.8	81	NE			2		2d		sw;c	0	0				Clear.
Quinnebaug, Villafranca, France	30.40‡	772.1‡			54	12.2	61	W			1		0								Clear.
Ranger, Honolulu, Sandwich Id's.	30.06‡	763.5‡			73	22.8	85	SW			1		2		Calm						Fair.
Richmond, Hong-Kong, China	30.06‡	763.5‡			58	14.4	94	N			1		10					Smooth			Rainy.
Rio Bravo, Brownsville, Texas	30.04‡	763.0‡			68	20.0	100	SE	3	1.3			0			0	0				Clear.
Santee. Annapolis, Md	30.44‡	773.2‡			38	3.3	81	E			1		8			0	0				Cloudy.
Shenandoah, Montevideo, Uruguay	29.64‡	752.8‡			74	23.3	86	Calm			0		10					Smooth			Cloudy.
St. Louis, League Island, Pa.	30.41‡	772.4‡			36	2.2	80	NE	5	2.2			8			0	0				Cloudy.
Tennessee, Hampton Roads, Va.	30.40‡	772.1‡			50	10.0	86	NNE	2	0.9			10		NE	0	0				Overcast.
Trenton, Villafranca, France	30.41‡	772.4‡			61	16.1	66	SW			1		2			0	0	Smooth			D. clouds.
Tuscarora, La Libertad, San Salvador.	29.94‡	760.5‡			77	25.0	53	N			1		0					Smooth			Clear.
Vandalia, Navy Yard, Brooklyn, N.Y.	30.40‡	772.1‡			33	0.6	89	NE			1		2		NE						Clear.
Wabash, Boston, Mass.	30.47‡	773.9‡			27	— 2.8	88	Calm	0	0			0			0	0				Clear.
Wachusett, Montevideo, Uruguay. †	30.25‡	768.3‡			73	22.8	81	E			2		2					Smooth	E		Fair.
Wyoming, Toulon, France	30.43‡	772.9‡			54	12.2	67	ESE			0–1		2		SE			Smooth	SE		Clear.

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
*Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 51° 27', W. 34° 10'....		30.00‡	762.0‡				NNE			2				N	Slight	Mod'ate	NNE	Drizzling....	W. E. Jago.
S. S. Circassian.....																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 38° 44', W. 71° 49'....		30.48‡	774.2‡	56	13.3		E			4		8		S		Smooth	ESE	Cloudy.....	
S. S. Moravian, J. Graham.....																			John France.
S. S. Peruvian.....																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Illinois, J. W. Shackford Philadelphia, Pa.....†		30.46‡	778 7‡	34	1.1	79	NE			1		8		SW				Fair.....	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Liverpool, Eng.....		30.81‡	782.0‡	40	4.4		SW			4		7		SW	0			Cloudy.....	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

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

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Amerika, C. Pohle.....																			
S. S. Braunschweig, C. Undutsch....																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer.....																			S. Risius.
S. S. Ohio, G. Meyer, N. 53° 03', E. 3° 41'.....		30.69‡	779.5‡				ESE			4		10		ESE		Mod'ate	E	Foggy.....	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

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

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, San Francisco, Cal....†		30.22‡	767.6‡	41	5.0	74	N			4		0						Clear.....	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.....†		30.03‡	762.71	59	15.0		NE			4		0		NE	Consid'ble	Smooth		Raining.....	J. A. Thompson.
S. S. Oceanic, Metcalf.....																			

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

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			J. M. Lachlan.
S. S. Oregon.....																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander...																			
S. S. Idaho, E. Alexander....																			
S. S. Orizaba.....																			
S. S. State of California, G. Dobney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Anerold. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

Names of Vessels and Captains.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			
N. 29° 27′, E. 163° 56′ ††		29.92‡	760 0‡	66	18.9	45	SW			5–6	5ck		NW		0	Heavy	NW	Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z-alandia, R. C. Ghest.																			
S. 14° 37′, W. 171° 22′		29.90‡	759 4‡				Var.			1				E		Light	SE	Heavy rain	

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

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Adele Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury.																			
S. 34° 09′, W. 29° 40′		30.19‡	766.8‡	69.5	20.8		E			2		8		ESE		Smooth	ESE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
N. 35° 03′, W. 68° 55′ ††		30.43‡	772.9‡	70	21.1		NE			5		8		ENE	Light	Smooth	NE	Squally	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 12, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco			30.29	769.3				NE			1		1			0	0	Very fair.	
Nemours			30.42	772.7	59.4	15.2	75	NNW			1		0			0	0	Clear.	Kesxuche.
Algiers			30.42	772.7	54.0	12.2	71	ENE			1		0			0	0	Clear.	Tourillere.
La Calle			30.34	770.6	51.3	10.7	87	NW			3		5			0.039	1.0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.33	770.3															Gau.
Saida			30.41	772.3															Herbin.
Tebessa			30.36	771.1	44.2	6.8	84	N			3		4			0.008	0.1	Cloudy	Watrin.
Geriville								N			1		0			0	0	Clear	Brugniaux.
Laghouat			30.43	772.9	48.9	9.4	52	ENE			4		0			0	0	Clear.	Bertrand.
Biskra			30.36	771.2	57.2	14.0	60	NW			2		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

Agram	30.00	762.1	30.60	777.2	27.5 — 2.5	96	SW			1		10				0.157	4.0	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.77	756.2	30.59	776.9	32.0 0.0	85	N	4.3	1.9			10				0.039	1.0		Dr. Wierzbicki.
Eperies	29.57	751.0	30.53	775.5	19.0 — 6.9	92	S			1		10							Julius Mikolik.
Gratz	29.28	743.6	30.62	777.7	30.6 — 0.8	75	SSW			2		3				0	0		Andreas Rospini.
Hermannstadt	29.00	736.6	30.60	777.2	9.7 —12.4	100	SE			2		0				0	0		Prof. A. Gottschling
Kremsmünster	29.21	741.9	30.65	778.5	29.3 — 1.5	84	E			1		3				0	0		Prof. C. Wagner.
Lemberg	29.44	747.7	30.52	775.1	20.5 — 6.4	95	E			1		2				0.016	0.4		Dr. T. Stanecki.
Pola	30.38	771.6	30.50	774.7	37.8 3.2	44	NE			2		2				0	0		I.R.Hydrographic Office
Szathmar	30.11	764.8	30.63	777.9	15.4 — 9.2	75	E			2		10				0	0		Pet. Pancsics, S. J.
Szegedin	30.27	768.9	30.58	776.7	23.0 — 5.0	84	Calm			0		10				0.024	0.60		Karl Stancel.
Trieste	30.45	773.4	30.55	776.0	36.7 2.6	55	ENE			3		0				0	0	Clear	P. Busin.
Vienna	29.87	758.8			32.0 0.0		NW			2						0	0		I.R.Central Met. Ob'sy.

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

BELGIAN SERIES.

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

Arlon																			Prof. M. Passau.
Brussels	30.39	771.8	30.60	777.2	31.3 — 0.4	88	E			1		0				0	0		Royal Observatory
Furnes	30.59	777.0	30.61	777.6	31.8 — 0.1	88	SE			1		0				0	0		M. E. de Cae.
Maeseyck	30.51	774.9	30.63	778.1	34.3 1.3	77	SE			2		0				0	0		M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.53	775.4	30.64	778.2	36.0	2.2		SSW	7	3.1			9			0	0	Overcast	W. Boswell.
Ardrossan	30.62	777.7	30.64	778.2	33	0.6		E			2		8					Overcast	G.Carrick.
Armagh, (Observatory)	30.34	770.6	30.58	776.7	37.1	2.8		E	2	0.9			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.62	777.7	33.6	0.9		SE	13	5.8			10					Gloomy	John Hartnup.
Bolton (Sharples)	30.05	763.3	30.59	777.0	31.6	— 0.2		SSE	6	2.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	30.21	767.3	30.61	777.5	33.9	1.1	83	SE			5		9			0	0	Gloomy	J McLandsborough.
Bridgetown, Barbadoes	29.80	756.9	29.84	757.9	80	26.7		NE			2		6					Overcast	Pyt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.52	775.2	30.62	777.7	37.0	2.8		E			1		10					Overcast	H. Todd.
Cardington			30.61	777.5	35.0	1.7		SE			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.48	774.2	30.62	777.7	35.2	1.8		SE			1		6					D. clouds	Geo. Stuart, Q. M. S'gt
Donaghadee	30.57	776.5	30.62	777.7	37	2.8		SSE			3		10					Overcast	J. Mac Gowan.
Dover	30.55	776.0	30.58	776.7	35	1.7		SE			3		0					Clear	J. Costello.
Falmouth (Observatory)	30.26	768.6	30.50	774.7	39.8	4.3		E			3		10					Overcast	The Staff.
Fort Napier, Natal	27.49	698.2	29.71	754.6	85.0	29.4		NE			1		8					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.46	773.7	37	2.8		E			2		10			0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordne, A.H.C
Glasgow, (Observatory)	30.42	772.7	30.63	778.0	31.9	— 0.1		SSE			1							Dense fog	D. G. Maclean.
Great Yarmouth	30.62	777.7	30.63	778.0	36	2.2		ESE			3		3					Blue sky	G. T. Watson.
Greenwich (Royal Obs'y)	30.42	772.7	30.60	777.2	36.2	2.3					1		3					D. clouds	The Staff, for G.B.Airy.
Guernsey	30.25	768.3	30.48	774.2	35	1.7		ENE			2		8					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.58	776.7	30.71	780.0	42	5.6		E			2		10			0	0	Overcast	M. P. Moyle.
Holyhead	30.52	775.2	30.60	777.2	35	1.7		E			2		10					Overcast	John Tilston.
Jersey	30.22	767.6	30.53	775.4	37.3	2.9		SSE			2		10					D. clouds	J. Fisher.
Kew (Observatory)	30.57	776.5	30.60	777.2	36.0	2.2		ESE			2		3					Light mist	The Met'g'l Office.
Leicester (Museum)	30.34	770.6	30.61	777.5	34.5	1.4		E	13	5.8								Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.08	764.0	30.15	765.8	55	12.8		E			1		10					Blue sky	A. King.
Nairn	30.52	775.2	30.62	777.7	30	— 1.1		NE			2		2					Clear	W. D. Penny.
Nassau, Bahamas			30.03	764.0	74.0	23.3		Calm			0		0					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.45	773.4	30.65	778.5	34.7	1.5		NE			2		4					D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.07	763.8	30.63	778.0	32.8	0.4		SE			3		10k		ESE	0	0	Overcast	Rev. Stephen J.Whitty.
Oxford (Radcliffe Obs'y)								E			1		10					Overcast	H. E. Bellamy.
Plymouth	30.42	772.7	30.50	774.7	38.1	3.4		ENE			3		10					Overcast	John Merrifield.
*Roche's Point	30.40	772.1	30.48	774.2	44	6.7		ESE			5		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.39	771.9	30.56	776.2	36	2.2		E			3		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.61	777.5	37.6	3.1		S	7	3.1			9					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.28	769.1	30.35	770.9	26.4	— 3.1		NNE			3		10					Snowing	Serg't W. H. Lyne.
Sheffield	30.37	771.4	30.66	778.7	33.5	0.8		SE			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.60	777.2	30.63	778.0	32.2	0.1	90	Calm			0		10			0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.62	777.7	33.2	0.7		E	4	1.8						0	0	Misty	Rev. S. J. Perry.
Stratfield, Turgiss					33.9	1.1		E			4		5					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.40	772.1	30.47	773.9	41	5.0		E			4		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.41	772.4	30.43	772.9	44.1	6.7		ESE	14	6.3			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.85	758.2	29.89	759.2	70.4	21.3	61	WNW	13.4	6.0		0	6k;ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.54	648.7			64.5	18.1		WNW				8n	8n						Robert Burnet.
Constable, Cape Colony	26.70	678.2			80	26.7		NW					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.20	767	59.9	15.5		SE			Slight		Slight			0	0	Dull	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.56	776.2	32.0	0.0		SW			1		10s			0	0	Overcast	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.95	760.6	77.4	25.2	68	ESE	11.0	4.9		3	6	WNW		0	0	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.58	751.3	29.67	753.6	76.0	24.4	42	NE	12	5.4			2			0	0		J. Youngclause.
Monach Lt-house, Hebrides			30.56	776.2	42	5.6		S			4		10			0	0		
North Unst, Shetland Is			30.53	775.4				SW			4		10			0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia			29.20‡	741.7‡	50.5	10.3		WNW			3		9					Overcast	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 20′, W. 8° 25′			30.37	771.4	48	8.9		ESE			6		10			4	SSE; NNE	Overcast	Capt. A. J. Brown.
City of Agra, N. 53° 04′ W. 160° 02′			30.19‡	766.8‡	49.2	9.6		N			4		10					Rain & fog	Capt. Thos. Young.
City of Cashmere, S. 58° 12′, W. 63° 34′			29.86‡	758.4‡	46	7.8		W			3		6				SE; W	D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 33° 30′, W. 56° 35′			30.28‡	769.1‡	66	18.9		N			3		3					Drizzling	Capt. Jas. Buchan.
S. S. Decapolis, N. 46° 25′, W. 16° 29′			29.99‡	761.7‡	55.5	13.1		SSE			6		10			Confused		Misty	Capt. T. M. Almond.
Barque Dochra, S. 17.° 50′ W. 124° 50′			29.92‡	760.0‡	78	25.6		NE			4		7					Showery	Capt. N. Spalding.
Barque Fedalma, N. 40° 45′, W. 30° 35′			29.81	757.2	56	13.3		NW			2		6	W		4	N	D. clouds	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony			29.85‡	758.2‡	73	22.8		NW			4		8					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, Off Ship Channel, Bahama Islands			30.09	764.3	75	23.9		NE			5		5			4	E	Misty	Capt. W. H. Stuart.
S. S. Strathleven, N. 26° 05′, E. 35° 05′			29.94‡	760.5‡	61.5	16.4		NNW			4		6					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.93	760.2	59.4	15.2	81	SE			2		0			0	0		Federico Maison.

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

DANISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.53	775.5	30.58	776.7	33.8	1.0	90	W			2		10					Snow-fog	
Farõe	30.63	777.9	30.65	778.4	37.9	3.3	90	W			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.25	768.4	30.30	769.5	25.9	— 3.4	87	Calm			0		0						
Thorshavn (Farõe)	30.41	772.3	30.44	773.2	46.0	7.8	73	WSW			4		2						
Vestervig	30.45	773.3	30.56	776.1	39.0	3.9	85	W			4		2						

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

FRENCH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.98	761.4	30.53	775.4	29.5	— 1.4	92	N			1		2		E	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.47	773.9	30.58	776.8	35.2	1.8	71	E			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.31	769.9	30.59	777.0	32.0	0	100	SE			1		s			0	0		Klein, Commandant.
Avignon, Normal School	30.39	771.8	30.47	773.8	42.1	5.6	58	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.97	761.1	30.56	776.2	32.5	0.3	78	ESE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.29	769.3	30.58	776.6	30.9	— 0.6	78	E			2		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.63	752.7	30.62	777.7	24.3	— 4.3		NE			1		2		NE	0	0	Slightly cl'dy	A. Carré, Director.
Bordeaux	30.26	768.7	30.46	773.7	45.1	7.3	77	SW			1		2			0	0	Slightly cl'dy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.67	753.6	30.58	776.7	24.4	— 4.2	100	N			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.95	760.6	30.54	775.8	25.7	— 3.5	98	E			3		10n		NW	0	0	Foggy	M. Gence, Director.
Brest, Naval Observatory	30.21	767.4	30.46	773.6	37.0	2.8	72	ESE			1		10		E	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.47	773.9	30.55	775.9	32.9	0.5	88	ESE			1–2		5		ESE	0	0	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.98	761.4	30.41	772.3	47.5	8.6	67	NNE			1		0					Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.26	768.7	30.61	777.4	33.6	0.9	96	SE			1		0			0	0	Clear	Jadot, Director
Chartres, Normal School	29.91	759.8	30.52	775.3	34.2	1.2	96	E			1		10			0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.06	738.0	30.50	774.8	29.5	— 1.4	96	NW			1		5			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.66	753.3	30.53	775.5	30.4	— 0.9		E			1		1		E	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.30	744.2	30.44	773.2	47.8	8.8	50	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.75	755.7	30.58	776.6	30.6	— 0.8		ESE			1		8kn			0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.26	768.6	30.48	774.3	42.1	5.6	70	ESE			1		5		WNW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	30.22	767.6	30.55	776.0	29.1	— 1.6	92	ESE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.60	751.9	30.56	776.3	24.8	— 4	53	NE			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.37	771.5	30.48	774.3	37.0	2.8	86	SE			3		10			0.020	0.5	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.90	759.4	30.57	776.4	27.3	— 2.6	85	SSE			1		0			0	0	Misty	Ch. André, Director
Mâcon, Normal School																0	0		Galzin, Director.
Marseilles, Observatory	30.13	765.2	30.40	772.2	53.1	11.7	44	W			1		0					Clear	E. Stephan, Director.
Mirecourt, Normal School	29.46	748.2	30.58	776.8	28.0	— 2.2	79	NE			3		0			0	0	Clear	Barbier, Director.
Mont-Louis	25.03	635.8	30.35	770.8	39.2	4.0	42	SE	9.4	4.2			0			0	0		M. Cave
Nice	30.39	772.0	30.43	772.8	49.6	9.8	64	ESE			2		5	W	ESE	0	0	Cloudy	M. Boissière, Director.
Nismes, Normal School	30.25	768.4	30.47	773.8	45.9	7.7	75	N			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.26	768.6			35.1	1.7	69	E			1		0			0	0		Marié Davy, Director.
Perpignan	30.34	770.5	30.45	773.4	46.6	8.1	72	E	1.8	0.8			3	SW		0	0		Dr. Flues.
Pic du Midi (Plantade) H. P.	22.69	576.4			34.5	1.4										0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																0	0		M. Baylac.
Privas, Normal School	29.37	746.0	30.50	774.7	35.2	1.8		S			6		0					Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.43	645.8			34.2	1.2	30	NE			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.51	774.9	30.54	775.7	31.3	— 0.4	92	ENE			2		10	ENE	ENE	0	0	Covered	Lt. E. Decante, Director
Rouen, Normal School	30.47	773.9	30.56	776.1	34.9	1.6	71	SSE			2		0			0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.45	773.4	30.48	774.2	37.6	3.1	72	ESE			2		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.38	771.7	30.55	775.9	36.3	2.4	61	SE			1		0			0	0	Clear	E. Renou, Director.
Tarbes, Normal School	29.31	744.4	30.44	773.2	54.5	12.5	57	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.74	755.5	30.48	774.1	34.5	1.4	100	SE			1		8			0	0	Foggy	M. Julher Mercadier.
Tours	30.30	769.6	30.50	774.6	27.0	— 2.8		E			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.03	762.8	30.52	775.3	33.4	0.8	85	SE			1		0			0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.83	757.6	30.60	777.2	26.6	— 3	96	SW			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	75.2	24										0.08	2.		L'Abbé Marchést
Zi-Ka-Wei (near Shanghai	30.38	771.6	30.40	772.2	37.4	3.0	91	NNE	7.8	3.6			10			0.205	5.2	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,656.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.75	755.7	30.63	778.1	31.1	— 0.5	55	E			4		2s			0	0		Prof. Dr. Hoh.
Berlin	30.54	775.8	30.73	780.5	32.9	0.5	89	W			2		10			0.004	0.1		Prof. Dr. Arndt.
Breslau	30.11	764.7	30.65	778.5	31.8	— 0.1	100	NW			2		10			0	0		Royal University Obs'y.
Carlsruhe	30.15	765.9	30.61	777.6	32.7	0.4	82	E			2		0			0	0		Albert Senz.
Cassel	30.06	763.4	30.67	779.0	31.1	— 0.5	80	E			1		8	SW		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.36	771.1	30.74	780.9	32.4	0.2	45	E			2		1			0	0		Physical Society.
Friedrichshafen	29.07	738.3	30.61	777.4	27.9	— 2.3	62	SE			2		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.64	778.3	30.71	780.1	32.0	0.0	92	Calm			0		10			0	0	Foggy	Dr. Reinhold Kleeman.
Kiel	30.65	778.4	30.66	778.8	35.8	2.1	87	WSW			1		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.43	772.8	30.51	775.0	32.9	0.5	95	W			5		10			0.012	0.3		Prof. E. Luther.
Köslin			30.61	777.5	35.1	1.7		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	30.27	768.8	30.72	780.3	30.9	— 0.6	77	NNW			0		10			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.47	774.0	30.71	779.9	33.6	0.9	75	Calm			0		9ks			0	0		Dr. Assmann.
Memel	30.42	772.7	30.47	773.9	32.9	0.5	100	NW			3		10n					Rain & fog	Reinbrecht & Issermann.
Munich (München)	28.69	728.7	30.79	776.9	27.1	— 2.7	67	E			5		0			0	0		Dr. C. Lang.
Neufahrwasser	30.57	776.4	30.58	776.8	33.6	0.9	90	NW			3		10			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	30.11	764.9	30.65	778.5	32.2	0.1	98	Calm			0					0	0		Reallehrer Dicknether.
Posen	30.82	770.2	30.63	778.0	33.1	0.6	87	NW			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.05	763.2	30.64	778.3	29.8	— 1.2	70	NE			2		1			0	0		Imp. University Observatory.
Stuttgart	29.60	751.9	30.61	777.4	32.4	0.2	57	E			2		0			0	0		Prof. Dr. Schoder.
Thorn	30.46	773.7	30.65	778.6	33.1	0.6	92	NW			3		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	29.66	738.0	30.67	778.9	29.3	— 1.5	83	SE	2.5	1.1		Ick		SE		0	0		Reallehrer J. Hopfner
Wustrow	30.63	778.0	30.65	778.6	34.3	1.3	98	SW			2		10s			0	0		E. Schütz, Director.
German Naval Series.																			

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

GREEK SERIES.

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

Athens	29.93	760.2	30.34	770.7	33.8	1.0		NE			3.0		10					Covered	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.84	758.0	29.90	759.4	72.8	22.7	83	SW	4	1.8			0			0	0	Blue sky	
Deesa	29.45	748.0	29.93	760.3	75.2	24.0	54	W	5.6	2.5			0			0	0	Blue sky	
Bombay	29.88	758.9	29.92	759.8	73.1	22.8	80	NW	12	5.4			0			0	0	Blue sky	
Poona (Yarrowda)	28.01	711.5	29.86	758.4	80.7	27.1	24	NW	19	8.5			0			0	0	Blue sky	
Belgaum	27.34	694.5	29.89	759.1	75.2	24.0	39	WSW	7	3.1			0			0	0	Blue sky	
Lahore	29.13	739.9	29.91	759.6	58.6	14.8	50	Calm	0.2	0.1			0			0	0	Blue sky	
Roorkee	28.93	734.8	29.86	758.5	61.8	16.6	51	Calm	1.0	0.4			0			0	0	Blue sky	
Agra	29.31	744.5	29.89	759.2	68.7	20.4	43	W	2.0	0.9			0			0	0	Blue sky	
Nagpur	28.79	731.4	29.84	758.0	76.9	24.9	34	Calm	1.8	0.8			0			0	0	Blue sky	
Jubbulpore	28.48	723.3	29.86	758.5	72.6	22.6	39	Calm	1.1	0.5			0			0	0	Blue sky	
Lucknow	29.49	748.9	29.88	758.9	65.1	18.4	49	Calm	0.4	0.2			0			0	0	Blue sky	
Allahabad	29.57	751.0	29.90	759.3	61.8	16.6	61	Calm	1.0	0.4			0			0	0	Blue sky	
Patna	29.70	754.4	29.89	759.2	66.2	19.0	59	Calm	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.82	706.8	29.91	759.6	60.8	16.0	39	WNW	5.1	2.3			0			0	0	Blue sky	
Cuttack	29.80	756.8	29.88	759.0	70.1	21.2	62	W	0.4	0.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.85	758.1	29.87	758.6	65.6	18.7	61	Calm					0			0	0	Blue sky	
Goalpara	29.49	748.9	29.89	759.1	67.1	19.5	67	Calm	2.6	1.2			0			0	0	Blue sky	
Chittagong	29.81	757.1	29.90	759.5	69.8	21.0	84	WSW	3.3	1.5			0			0	0	Misty	
Sibsagar	29.57	751.1	29.92	759.9	64.3	17.9	81	WNW	1.3	0.6			6			0	0	D. clouds	

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

ITALIAN SERIES.

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

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

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.13	765.4	30.57	776.5	33.4	0.8	85	W	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	30.03	762.8	30.59	777.0	30.9	— 0.6	92	ENE	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.46	773.6	30.58	776.6	33.4	0.8	64	NW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.59	751.6	30.53	775 4	30.7	— 0.7	79	ENE	1.8	0.8	.....	.....	10	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.29	769.3	30.49	774.4	39.2	4.0	62	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.52	724.5	30.55	776.0	31.1	— 0.5	77	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.46	773.7	30.57	775.0	37.2	2 9	54	NE	19.2	8.6	.....	.....	10	NE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.24	768.0	30.51	774.9	39.2	4.0	45	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.38	771.6	30.46	773.8	42.6	5.9	35	NE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.12	765.1	30.31	769 8	44.6	7.0	68	N	19.9	8.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.98	761.5	30.25	768.3	38.7	3.7	48	ENE	17.4	7.8	.....	.....	4	N	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.34	745.1	30.26	768.6	39.4	4.1	66	SE	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.08	764.1	30.29	769.3	51.8	11.0	49	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.99	761.7	30.25	768.3	48.2	9.0	72	NW	11.2	5.0	.....	.....	5	NNW	.....	0.114	2.9	.....	Prof. G. Ciacciatore.
Syracuse	30.14	765.6	30.19	766 7	52.5	11.4	74	E	7.4	3.3	.....	.....	10	NE	.....	0.280	7.1	.....	Prof. V.G. Guliano.
Sub-Series.																			
Naples, S. R.	29.76	755.9	30.31	769.9	41.0	5.0	36	ENE	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.22	767.6	30.23	767.8	37.3	2.9	76	NNE	4.5	2.0	.....	.....	18	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.05	763.3	30.26	768.6	42.0	5.6	75	NNE	4.9	2.2	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.06	763.5	33.3	0.7	65	NNW	3.0	1.3	.....	3cs	.....	.....	.....	0	0	Fair.	The Staff.
Wakayama	30.12	765.0	30.17	766.3	39.0	3.9	77	NW	2.2	1.0	.....	ck	18	.....	.....	0	0	Fair.	

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.05	636.3	30.29	769.4	38.3	3.5	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear.	Prof. L. Perez.
Leon	24.47	621.4	30.30	769.6	48.6	9.2	76	N	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.74	755.4	30.00	762.1	62.8	17.1	96	NW	.....	.....	2	.....	Fog	.....	.....	0	0	Dense fog	F. Quijano, C. E.
Mexico, Central Observatory	23.09	586.6	30.31	769.9	41.5	5.3	51	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Morelia	24.06	611.2	.....	.....	56.3	13.5	73	SE	.....	.....	3	3c	0	S	.....	0	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	23.95	608.2	30.11	764.7	41.7	5.4	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.7	30.44	773.1	37.4	3.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.38	771.7	44.1	6.7	50	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	30.03	762.7	30.04	763.0	68.0	20.0	96	Calm	.....	.....	0	0	0	.....	.....	0	0	Dense fog	Prof. M. M. Chazaro.
Vera-Cruz	30.03	762.8	30.06	763.5	69.8	21.0	86	Calm	0	0	.....	2k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.57	573.3	30.26	768.6	52.8	11.6	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing																			
Groningen	30.63	778.1	30.63	778 1	32.4	0.2	.....	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	30.65	778.6	30.71	780.0	32.2	0.1	.....	E	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.68	779.3	30.68	779.3	30.6	— 0.8	.....	E	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Utrecht	30.63	778.0	30.63	778.0	32.2	0.1	96	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
	30.62	777.6	30.66	778.8	33.6	0.9	68	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.48	774.3	30.54	775.7	36.6	4.2	87	SSE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	
Brönö	30.17	766.4	30.21	767.4	42.8	6.0	88	WSW	18	8	.....	.....	10	.....	.....	0.283	7.2	Rain & snow	
Christiana	30.35	770.9	30.51	775.0	19.0	— 7.2	95	ENE	0	0	.....	.....	2	.....	.....	0	0	.....	
Tromsö	29.92	760.0	29.97	761.1	30.7	— 0.7	92	NE	7	3	.....	.....	10	.....	.....	0.398	10.1	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.39	746.6	30.43	772.9	48.9	9.4	56	ENE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.8	30.12	765.0	65.2	19.0	57	SSE	11.2	5.0	.....	.....	8	.....	.....	0.039	1.0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.04	763.0	30.45	773.5	48.6	9.2	70	ENE	6.3	2.8	.....	.....	2	.....	.....	6	0	.....	The Staff.
Ponta Delgada (Azores)	29.87	758.8	30.26	768.6	52.2	11.2	69	N	2.5	1.1	.....	.....	3	.....	.....	0.031	0.8	Light rain	

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

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. B. C. da Silva Costa.				
Porto Praya, Cape VerdIds.	.....	.....	Blue sky	T. Pereira, 2nd Lieut.
Sà da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, S. 10° 15', E. 12° 46'	.....	.....	Overcast	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes	.....	.....	.....	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.45	748.1	29.47	748.6	24.8	— 4.0	93	W	18	8	.....	.....	10	.....	.....	.....	.....	Snowing	Capt. Sseliwerstow.
Astrakhan	30.39	772.0	30.31	769.9	23.5	— 4.7	90	NE	4	2	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	29.70	754.4	30.25	768.4	1.2	—17.1	99	NE	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Dorpat	29.99	761.7	30.24	768.2	29.7	— 1.3	100	WSW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.19	741.3	30.27	768.8	— 2.0	—18.9	92	W	22	10	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.11	764.8	30.42	772.7	— 6.5	—21.4	95	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.82	757.3	30.53	775.4	6.6	—14.1	96	NNE	4	2	.....	10ks,s-u	.....	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Krotkowo*	29.95	760.7	30.48	774.3	— 0.4	—18.0	74	N	0	0	.....	.....	28	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.08	764.1	30.31	769.9	1.9	—16.7	80	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.88	759.0	30.50	774.6	6.8	—14.0	93	N	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Nertchinsk	28.15	715.0	30.85	783.7	—20.2	—29.0	78	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.45	773.3	30.52	775.1	1.0	—17.2	74	N	13	6	.....	3c	.....	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.94	760.4	30.19	766.8	23.0	— 5.0	98	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.37	771.3	30.51	774.9	23.0	— 5.0	55	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.03	762.7	30.04	763.1	28.8	— 2.9	100	WSW	18	8	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tashkend	28.70	729.0	30.36	771.1	33.8	1	80	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.72	729.6	30.23	767.9	27.7	— 2.4	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.11	764.7	30.56	776.1	32.5	0.3	92	N	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.05	763.2	30.50	774.7	25.2	— 3.8	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.21	767.4	30.54	775.7	27.7	— 2.4	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.32	770.1	30.43	772.8	49.6	9.8	56	E	0.9	0.39	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.35	771.0	30.41	772.5	55.6	13.1	57	SE	2.1	0.92	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.42	696.5	.....	.....	28.8	— 1.8	96	S	2.0	0.89	.....	0	0	.....	.....	0	0	Dense fog	Domingo Martin y Perez.
Madrid, Royal Observatory	28.16	715.2	30.50	774.6	41.0	5.0	71	N	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.28	769.2	30.44	773.1	55.9	13.3	68	NE	1.1	0.50	.....	0	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.48	748.7	30.35	770.9	52.9	11.6	62	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	762.9	30.10	764.6	67.8	19.9	86	E	2.2	1.0	.....	0	1k	.....	ENE	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.85	758.1	29.90	759.4	82.6	28.1	78	SE	0	0	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.30	769.6	30.40	772.2	58.8	14.9	62	ESE	10.8	4.8	.....	0	8	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.76	755.9	29.85	758.2	74.6	23.6	92	SW	0	0	.....	5cs	8k	SW	SW	0.010	0.25	Clear.	EnriqueGadea, Chief Eng'r.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humdity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.92	759.9	29.96	760.9	30.2	— 1.0		W			4		9			0	0		
Umea	30.05	763.3	30.10	764.6	38.1	3.4	83	NW			2		9			0	0		
Hernosand	30.18	766.5	30.23	767.8	42.4	5.8	61	WNW			4		9			0	0		
Stockholm	30.24	768.2	30.42	772.7	30.2	— 1.0	88	WNW			2		9			0	0		
Wisby	30.31	769.9	30.37	771.4	31.6	— 0.2	96	NNW			6		7			0	0		
Sub-Series.																			
Upsala	30.26	768.7	30.35	770.9	29.3	— 1.5	94	SW	6.3	2.8			8		NW	0.002	0.04		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

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

SWISS SERIES.

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

Geneva	29.08	738.5	30.59	776.9	27.1	— 2.7	78	ENE			3		10			0	0	Covered	The Observatory.
Zurich	28.86	733.0	30.60	777.1	26.6	— 3.0	75	NE			1		8			0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10.8 mm.; Thermometer, —1.1 Cent.; Relative Humidity, —1 per cent
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople			30.35	771.0	26.6	— 3.0	100	N	27	12.0			10		N			Snowing	The Observatory.
Fao, Persian Gulf																			
Valona			30.13	765.4	39.0	3.9		NW			2		5			0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			29.97	761.1	50.0	10.0	90	SW			1		10n		SW	1.75	44.5		Prof. C. V. A. van Dyck

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

CANADIAN SERIES.

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

Bathurst, N. B	30.01	762.2	30.02	762.5	15.6	— 9.1		NW	2	0.9						0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.03	762.7	30.10	764.5	18.7	— 7.4	92	SW	2	0.9		2k	7ks	SW		0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.09	764.3	30.14	765.5	22.2	— 5.4	81	S	3	1.3			10n			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.00	762.0	30.20	767.1	36.0	2.2	81	W			1		10s			0.07	1.8	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.84	757.9	30.02	762.5	13.3	—10.4		Calm	0	0			10s			0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	30.04	763.0	30.06	763.5	21.0	— 6.1	93	Calm	0	0			10n			0.02	0.5	Threatening	J. McWilliams.
Fredericton, N. B	30.05	763.3	30.12	765.0	17.1	— 8.3	82	Calm	0	0			10s			0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.55	750.6	30.54	775.7	—25.0	—31.7	100	W	2	0.9		0	0			0	0	Clear	James Stewart.
Granton, Ontario	29.24	742.7	30.41	772.4	28	— 2.2		N			1		10n			0.55	14.0	Cloudy	James Grant.
Halifax, N. S	30.10	764.5	30.23	767.8	28.4	— 2.0	88	W	2	0.9			10n			0	0	Cloudy	A. Allison.
Hamilton, Ontario	30.11	764.8	30.50	774.7	30.7	— 0.7	94	W			1	10cs	0	W		0.13	3.2	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.96	761.0	30.31	769.9	36.1	2.3	76	W	8	3.6			10ks			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	24.7	— 4.1	87	SW	4	1.8		0	8ks			0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	29.96	761.0	30.16	766.1	37.1	2.8	89	W	15	6.7			10s			0.17	4.3	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.34	770.6	30.38	771.6	—18.6	—28.1	87	SW			3	0	0			1.10	27.9	Clear	J. R. Nerson.
Norwood	29.58	751.8	30.32	770.1	28.0	— 2.2	76	NW	13	5.8			10s			0.04	1.0	Clearing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.71	754.6	30.46	773.7	19.1	— 7.2	69	NW	12	5.4		2k	7ks	NW	NW	0.56	14.2	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.60	751.8	30.40	772.1	27.4	— 2.6	88	N			2		10n			0	0	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.67	753.6	30.41	772.4	30.0	— 1.1	78	N	9	4.0			10n			0.11	2.8	Threatening	H. Morgan.
Port Stanley, Ontario	29.74	755.4	30.43	772.9	29.2	— 1.6	66	NW	6	2.7			10n			0.29	7.4	Cloudy	M. Payne.
Quebec, Quebec	29.96	761.0	30.10	764.5	26.0	— 3.3	100	Calm			0		10n			0.02	0.5	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario																			W. H. McIntyre.
St. John, N. B	29.98	761.5	30.15	765.8	37	2.8	85	SW	12	5.4			10n			0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.68	753.9	30.45	773.4	25.5	— 3.6	82	N	18	8.0			10n			0.46	11.7	Overcast	K. Stewart.
Stratford, Ontario	29.04	737.6	30.41	772.4	24.4	— 4.2	93	NW	9.0	4.0			10s			0.43	10.9	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.14	765.5	30.18	766.6	23.0	— 5.0	77	Calm	0	0		10cs	0	NW		0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	30.02	762.5	30.42	772.7	29.0	— 1.7	88	N	14	6.3			8s			0.16	4.1	Cloudy	Magnetic Observatory
Windsor, N. S	30.14	765.5	30.24	768.1	28.0	— 2.2	88	NE	3	1.3		6k	0			0	0	Fair	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.30	744.2	30.43	772.9	26.8	— 2.9	89	NW	14	6.3			10s		N	0.37	9.4	Overcast	Prsfessor Wolverton.
Yarmouth, N. S	30.10	764.5	30 17	766.3	37.1	2.8	82	NE	7	3.1		10k	0	S		0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.74	755.4	30.01	762.2	18	— 7.8		NW				2k	5s			Inap.	Inap.	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.04	763.0	28.4	— 2.0		NW			1	cs	n			0	0	Cloudy	The Commandant.

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

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.99	761.7	30.23	767.8	41	5.0	82	NW	19	8.5			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.80	756.9	30.51	774.9	15	— 9.4	82	NW	6	2.7			10s		Calm	0.60	15.2	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.05	737.9	30.19	766.8	60	15.6	94	SE	11	4.9			10s		Calm	0.01	0.3	Cloudy	
Atlantic City, New Jersey	30.20	767.1	30.22	767.6	46	7.8	100	SW	5	2.2			Fog		Calm	0.01	0.3	Foggy	
Augusta, Georgia	30.11	764.8	30.32	770.1	60	15.6	94	SE	3	1.3			10s;fg		8E;Calm	0.03	0.8	Cloudy	
Baltimore, Maryland	30.14	765.5	30.19	766.8	51	10.6	93	SW	3	1.3			10s;fg		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.17	766.3	30.20	767.1	46	7.8	100	S	9	4.0			Fog		Calm	0.01	0.3	Foggy	
Bismarck, Dakota	28.52	724.4	30.37	771.4	—17	—27.2	100	E	2	0.9		5c	0	NW		0	0	Fair	
Boerne, Texas	28.73	729.7	29.98	761.5	48	8.9	93	N	8	3.6			10s		N	0.25	6.3	Cloudy	
Boise City, Idaho	27.56	700.0	30.52	775.2	26	— 3.3	75	SE	10	4.5			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.98	761.5	30.14	765.5	52	11.1	93	SW	8	3.6			Fog		Calm	0.02	0.5	Foggy	
Brackettville, Texas	29.04	737.6	30.11	764 8	52	11.1	66	NW	8	3.6			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.46	748.3	30.64	778.2	-13	—25.0	100	S	10	4.5			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.04	763.0	30.08	764.0	70	21.1	90	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.64	752.8	30.38	771.6	32	0.0	59	NW	7	3.1			10s		NW	0.12	3.0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.89	759.2	30.18	766.6	42	5.6	74	NW	12	5.4			10s		NW	0.02	0.5	Cloudy	
Cairo, Illinois	29.99	761.7	30.41	772.4	35	1.7	90	NE	12	5.4			10n		Calm	1.11	28.2	Heavy snow	
Campo, California	27.61	701.3	30.18	766.6	30	— 1.1	57	E	14	6.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	53	11.7	100	NE	4	1.8			Fog		Calm	0	0	Dense fog	
Cape Henry, Virginia	30.23	767.8	30.24	768.1	55	12.8	87	SW	10	4.5		0	2s		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.27	768.8	30.28	769.1	54	12.2	100	NE	8	3.6		5ck	Haze	NE	Calm	0	0	Light haze	
Cape May, New Jersey	30.18	766.6	30.21	767.3	48	8.9	100	SW	4	1.8			Fog			0	0	Foggy	
Castroville, Texas	29.37	746.0	30.08	764.0	54	12.2	80	NW	12	5.4			10s		Calm	0	0	Cloudy	
Cedar Keys, Florida	30.22	767.6	30.25	768.3	62	16.7	94	NE	9	4.0			Fog		E	0	0	Dense fog	
Charleston, South Carolina	30.23	767.8	30.29	769.4	49	9.4	85	NE	4	1.8			Fog			0	0	Foggy	
Charlotte, North Carolina	29.39	746.5	30.21	767.3	52	11.1	100	SE	3	1.3			Fog		Calm	0.06	1.5	Foggy	
Chattanooga, Tennessee	29.36	745.7	30.15	765.8	60	15.6	94	S	4	1.8		0	8ks		SW	0.02	0.5	Fair	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	13	—10.6	62	W	26	11.6		0	0			0	0	Clear	
Chicago, Illinois	29.75	755.6	30.49	774.4	31	— 0.6	69	N	3	1.3		0	0			0.60	15.2	Clear	
Cincinnati, Ohio	29.70	754.4	30.39	771.9	35	1.7	90	N	12	5.4			10n		N	0.44	11.2	Light snow	
Cleveland, Ohio	29.65	753.1	30.42	772.7	33	0.6	79	N	12	5.4			10s		Calm	0.38	9.7	Cloudy	
Coleman City, Texas	28.43	722.1	30.16	766.1	42	5.6	66	N	16	7.2			10s		Calm	0	0	Cloudy	
Columbus, Ohio	29.53	750.0	30.43	772.9	31	— 0.6	89	N	12	5.4			10n		Calm	0.21	5.3	Light snow	
Concho, Texas	28.34	719.8	30.08	764.0	43	6.1	83	N			1		10ks		Calm	0	0	Cloudy	
Corsicana, Texas	29.73	755.1	30.21	767.3	48	8.9	78	N	12	5.4			10s		Calm	0.04	1.0	Cloudy	
Davenport, Iowa	29.85	758.2	30.55	776.0	22	— 5.6	72	N	6	2.7		0	0			0	0	Clear	
Dayton, Washington T'y					28	— 2.2	88	SW			1		10s		Calm	0.04	1.0	Cloudy	
Deadwood, Dakota	25.44	646.2			16	— 8.9	16	SW	4	1.8		0	0			0	0	Clear	
Decatur, Texas																			
Denison, Texas	29.44	747.8	30.28	769.1	39	3.9	91	N	7	3.1			10n		SW	0.01	0.3	Light rain	
Denver, Colorado	24.94	633.5	30.16	766.1	12	—11.1	61	W	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.60	751.8	30.59	777.0	12	—11.1	80	NE	2	0.9		0	0			0	0	Clear	
Detroit, Michigan	29.76	755.9	30.48	774.2	30	— 1.1	78	N	6	2.7			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.74	704.6	30.28	769.1	13	—10.6	81	NE	6	2.7		0	0			0	0	Clear	
Dubuque, Iowa	29.82	757.4	30.61	777.5	14	—10.0	64	NW	3	1.3		0	0			0	0	Clear	
Duluth, Minnesota	29.86	758.4	30.68	779.3	—14	—25.6	72	SW	4	1.8		0	0			0.01	0.3	Clear	
Eagle Pass, Texas	29.45	748.0	30.20	767.1	53	11.7	54	NW	19	8.5			10s		NW	0	0	Cloudy	
Eastport, Maine	30.05	763.3	30.12	765.0	39	3.9	82	SW	6	2.7			10s		SW	0	0	Cloudy	
Edinburg, Texas					68	20.0	90	Calm			0		10s		Calm	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.65	753.1	30.40	772.1	35	1.7	61	N	11	4.9			10s		Calm	0.25	6.3	Cloudy	
Escanaba, Michigan	29.85	758.2	30.60	777.2	2	—16.7	72	W	7	3.1		0	0			0	0	Clear	
Florence, Arizona	28.75	730.2	30.35	770.9	31	— 0.6	89	Calm	0	0		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.26	717.8	30.50	774.7	—30	—34.4	100	NW	1	0.4		0	0			0	0	Clear	
Fort Custer, Montana	27.06	687.3			1	—17.2	72	S	4	1.8		0	0			0	0	Clear	
Fort Davis, Texas	25.36	644.1	30.32	770.1	31	— 0.6	79	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.78	756.4	30.34	770.6	38	3.3	63	N	8	3.6			10s		W	0	0	Cloudy	
Fort Grant, Arizona	25.36	644.1	30.16	766.1	35	1.7	45	E	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	29.02	737.1	30.35	770.9	41	5.0	74	N	5	2.2			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.54	699.5			— 6	—21.1	61	NE	4	1.8		0	0			0	0	Clear	
Fort McKavett, Texas	27.98	710.7	29.97	761.2	41	5.0	57	N	10	4.5			10s		N	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.09	738.9	30.27	768.8	32	0.0	69	N	16	7.2		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.48	723.4			—29	—33.9	100	Calm	0	0		0	0			0	0	Clear	
Fort Verde, Arizona					28	— 2.2	77	NW			2	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.35	720.1	29.95	760.7	46	7.8	84	N	5	2.2			10s	Calm		0	0	Cloudy	
Galveston, Texas	30.11	764.8	30.15	765.8	67	19.4	100	SE	4	1.8		0	Fog		Calm	0	0	Light fog	
Graham, Texas	29.22	742.2	30.34	770.6	37	2.8	71	N	10	4.5		2c	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.83	757.7	30.53	775.4	26	— 3.3	77	N	6	2.7		0	0			0.66	16.8	Clear	
Helena, Montana																			
Henrietta, Texas	29.39	746.5	30.39	771.9	35	1.7	80	NE	14	6.3		2c	2s	W	NW	0	0	Fair	
Indianapolis, Indiana	29.56	750.8	30.39	771.9	32	0.0	76	N	8	3.6			10n		N	0.68	17.3	Light snow	
Indianola, Texas	30.12	765 0	30.15	765.8	67	19.4	95	SE	2	0.9		0	Haze		Calm	0	0	Clear	
Jacksboro, Texas	29.07	738.4	30.25	768.3	41	5.0	74	N	10	4.5			10s		N	0.05	1.3	Cloudy	
Jacksonville, Florida	30.25	768.3	30.28	769.1	64	17.8	89	NE	7	3.1			10s		Calm	0	0	Cloudy	
Keokuk, Iowa	29.80	756.9	30.48	774.2	22	— 5.6	72	NE	7	3.1		0	5s		Calm	0.03	0.8	Fair	
Key West, Florida	30.10	764.5	30.13	765.3	72	22.2	85	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.26	768.6	30.29	769.4	51	10.6	100	E	2	0.9		2k	Fog	W	Calm	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.15	765.8	58.5	14.7	94	SW	2	0.9			10ks		SW	0	0	Threatening	
La Crosse, Wisconsin	29.79	756.7	30.62	777.7	9	—12.8	57	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.28	667.5	30.43	772.9	31	— 0.6	58	NW	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.84	757.9	30.19	766.8	58	14.4	76	N	12	5.4			10s		N	0	0	Cloudy	
Leavenworth, Kansas	29.58	751.3	30.50	774.7	23	— 5.0	73	N	8	3.6		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	29.97	761.2	30.34	770.6	45	7.2	92	N	13	5.8			10n		Calm	1.11	28.2	Light rain	
Los Angeles, California	29.88	758.9	30.24	768.1	42.0	5.6	58	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.74	755.4	30.33	770.4	34	1.1	90	N	11	4.9			10n		NW	0.53	13.5	Heavy snow	
Lynchburg, Virginia	29.52	749.8	30.21	767.3	51	10.6	93	SW	1	0.4			8ks		SW	0	0	Cloudy	
Madison, Wisconsin	29.48	748.8	30.58	776.7	10	—12.2	58	N	11	4.9		0	0			0	0	Clear	
Marquette, Michigan	29.76	755.9	30.56	776.2	3	—16.1	78	SW	8	3.6		0	0			0.07	1.8	Clear	
Mason, Texas	28.59	726.2	30.40	772.1	47	8.3	48	N	11	4.9			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.90	759.4	30.25	768.3	44	6.7	92	N	11	4.9			10n		Calm	0.32	8.1	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.75	755.6	30.56	776.2	17	— 8.3	67	NW	9	4.0	.....	10	1s	.....	Calm	0.11	2.8	Clear.	
Mobile, Alabama	30.17	766.3	30.21	767.3	62	16.7	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	30.01	762.2	30.25	768.3	59	15.0	97	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Morgantown, West Virginia	29.26	743.2	30.29	769.4	40	4.4	82	NW	12	5.4	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Mt. Washington, N. H.	23.72	602.5	30.08	764.0	31	— 0.6	100	NW	57	25.5	.....	.....	10n	.....	NW	0.09	2.3	Light rain...	
Nashville, Tennessee	29.68	753.9	30.23	767.8	45	7.2	84	N	4	1.8	.....	.....	10n	.....	Calm	0.14	3.6	Light rain...	
New Haven, Connecticut	30.06	763.5	30.18	766.6	40	9.4	100	SW	2	0.9	.....	.....	Fog	.....	Calm	0.07	1.8	Dense fog....	
New London, Connecticut	30.14	765.5	30.19	766.8	48	8.9	100	SW	6	2.7	.....	.....	Fog	.....	Calm	0.05	1.3	Den se fog....	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	67	19.4	91	SE	2	0.9	.....	.....	10n	.....	Calm	0.32	8.1	Light rain...	
Newport, Rhode Island	30.11	764.8	30.16	766.1	47	8.3	100	SW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	
New River, North Carolina	.....	.....	.....	.....	48	8.9	100	SW	8	3.6	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy.	
New York, New York	30.02	762.5	30.20	767.1	50	10.0	100	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
Norfolk, Virginia	30.18	766.6	30.24	768.1	17	— 8.3	59	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
North Platte, Nebraska	27.36	694.9	30.10	766.1	35.0	1.7	95	S	6	2.7	.....	.....	10n	.....	Calm	0.18	4.6	Light rain...	
Olympia, Washington Ter	29.90	759.4	29.94	760.5	12	—11.1	80	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	29.28	743.7	30.50	774.7	38	3.3	63	NW	12	5.4	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.... ..	
Oswego, New York	30.01	762.2	30.34	770.6	32	—32.8	100	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pembina, Dakota	29.49	749.0	30.48	774.2	—27	—32.8	100	SE	11	4.9	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.....	
Pensacola, Florida	30.22	767.6	30.25	768.3	64	17.8	100	W	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	30.14	765.5	30.19	766.8	49	9.4	100	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	29.10	739.1	31.01	787.6	89	3.9	55	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.53	445.2	29.74	755.4	— 9	—22.8	56	N	.....	.....	.....	5k	5s	NW	N	Inap.	Inap.	Cloudy.....	
Pilot Point, Texas	29.51	749.5	30.36	771.1	45	7.2	80	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	.....	.....	.....	.....	14	—10.0	64	N	8	3.6	.....	.....	10s	.....	N	0.07	1.8	Cloudy.....	
Pittsburg, Pennsylvania	29.49	749.0	30.34	770.6	36	2.2	80	N	14	6.3	.....	.....	10ks	.....	N	0.49	12.4	Cloudy.....	
Port Huron, Michigan	29.78	755.1	30.44	773.2	27	— 2.8	76	W	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Portland, Maine	30.01	762.2	30.06	763.5	38	3.3	91	S	6	2.7	.....	.....	10n	.....	.....	0.42	10.7	Heavy snow	
Portland, Oregon	30.07	763.8	30.14	765.5	56	1.7	95	N	8	3.6	.....	8k	0	N	.....	0	0	Fair.	
Portsmouth, North Carolina	.....	.....	.....	.....	57	13.9	94	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona	24.96	634.0	30.32	770.1	21	— 6.1	86	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.16	766.1	30.17	766.3	64	17.8	89	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	30.06	763.5	30.45	773.4	33	0.6	73	SE	.....	.....	1	0	Fog	.....	.....	0	0	Clear.....	
Rio Grand e City, Texas	29.88	758.9	30.10	764.5	61	16.1	94	NW	12	5.4	.....	.....	10n	.....	NW	0.10	2.5	Light snow.	
Rochester, New York	29.71	754.6	30.36	771.1	32	0.0	89	SE	2	0.9	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Roseburg, Oregon	29.71	754.6	30.30	769.6	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sacramento, California	30.34	770.6	30.42	772.7	33.6	0.8	84	N	11	4.9	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
St. Louis, Missouri	29.81	757.2	30.48	772.9	33	0.6	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.65	753.1	30.60	777.2	— 1	—18.3	68	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	26.03	661.2	30.36	771.1	8	—13.3	55	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas	29.48	748.8	30.08	764.0	54	12.2	87	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.13	765.3	30.20	767.1	45	7.2	53	W	14	6.3	.....	.....	10s	.....	N	0.61	15.5	Cloudy.....	
Sandusky, Ohio	29.75	755.6	30.46	773.7	35	1.7	70	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.16	766.1	30.20	767.1	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Francisco, California	30.34	770.6	30.41	772.4	41	5.0	82	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	18	— 7.8	53	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy...	
Savannah, Georgia	30.20	767.1	30.30	769.6	60	15.6	94	N	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Shreveport, Louisiana	29.94	760.5	30.17	766.3	58	11.7	93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.25	768.3	30.29	769.4	57	13.9	93	N	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Socorro, New Mexico	25.67	652.0	29.74	755.4	24	— 4.4	36	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.77	756.1	30.40	774.4	33	0.6	61	N	10	4.5	.....	.....	10s	.....	W	0.26	6.8	Cloudy.....	
Springfield, Massachusetts	30.03	762.7	30.10	766.1	42	5.6	91	S	2	0.9	.....	.....	Fog	.....	.....	0.04	1.0	Dense fog....	
Stockton, Texas	7.27	692.6	30.27	768.8	35	1.7	10	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.09	764.3	30.14	765.5	47	8.3	85	S	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Toledo, Ohio	29 72	754.9	30.44	773.2	35	1.7	53	NW	4	1.8	.....	.....	10s	.....	.....	0.33	8.4	Cloudy.....	
Tucson, Arizona	27.78	705.6	30.53	770.4	56	2.2	80	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.93	760.2	30.47	773.9	23	— 5.0	86	NE	10	4.5	.....	.....	10n	.....	.....	0.08	2.0	Light snow.	
Uvalde, Texas	29.30	744.2	30.13	765.3	51	10.6	79	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy.....	
Vicksburg, Mississippi	29.92	760.0	30.18	766.6	65	18.3	94	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Virginia City, Montana	24.32	617.7	29.80	756.9	12	—11.1	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29 99	761.7	30.39	771 9	30	— 1.1	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C	30.06	763.5	30.17	766.3	50	10.0	90	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.21	767.3	30.29	769.4	58	11.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog...	
Winnemucca, Nevada	25.93	658.6	30.29	769.4	14	—10.0	82	SE	6	2.7	.....	0	1s	.....	S	0	0	Clear.....	
Wood's Holl, Massachusetts	30.14	765.5	30.17	766.3	48	8.9	92	SW	16	7.2	.....	.....	10s;fg	.....	.....	0	0	Cloudy.....	
Yankton, Dakota	29.08	738.6	30.56	776.2	2	—16 7	72	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.16	766.1	30.32	770.1	47	8.3	15	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.01	762.2	30.06	763.5	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.10	764.5	30.11	764.8	75	23.9	86	Calm	0	0	.....	2c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I	29.80	756.9	29.88	758.9	76	24.4	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	80	26.7	78	E	.....	.....	.....	2	3c	4k	E	.....	.....	Fair	C. J. Hering.
Santiago de Cuba, W. I	29.95	760.7	29.98	761.5	73	22.8	81	N	6	2.7	.....	0	4s	.....	NE	0.200	5.08	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	G. O. Gellich.
York Factory, B. A	29.76	755.9	29.82	757.4	—20.0	—33.9	.....	W	21	9.4	.....	5ks	1s	W	W	0.15	3.8	Squally.....	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,828 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,900 (?) ft., or 579 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,866 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm *Estimated.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.20‡	767.1‡			67	19.4	100	NE	3	1.3			Fog		SE					Foggy.	
Navy Yard, Portsmouth, N.H.	30.15‡	765.8‡			35	1.7	100	SW	2	0.9			10							Snowing.	
Naval Hospital, Yokohama, Japan	30.02‡	762.5‡			37.5	3.1	58	NW					2k		NW	0	0			Fair.	
Adams, Mare I'd., Navy Yard, Cal.	30.42‡	772.7‡			45	7.2	92	Calm			0		0							Clear.	
Alaska, Arica, Peru	*29.90‡	759.4‡			69	20.6	85	Calm			0		10							Foggy.	
Colorado, New York, N. Y.	30.15‡	765.8‡			49	9.4	100	WSW	4	1.8			10			0	0			Foggy	
Constitution, Fredericksteed, Santa Cruz, W. I.	29.84‡	757.9‡			75	23.9	100	SE			2		10		Calm					Drizzling	
Enterprise. Piraeus, Greece	30.34‡	770.6‡			37	2.8	71	NE			5		10		N			Smooth		Raining	
Franklin, Off Navy Yard, Norfolk, Va.	30.29‡	769.4‡			52	11.1	86	Calm	0	0			0			0	0			Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.50‡	774.7‡			39	3.9	73	Calm	0	0			0			0	0			Clear.	
Kearsarge, Havana, Cuba	30.10‡	764.5‡			71	21.7	85	Calm			0		8		S			Smooth		Fair.	
Lackawana, Honolulu, Sandwich Id's	†30.07‡	763.8‡			74	23.3	86	NE			1–3		2		NE					Fair.	
Marion, N. 5° 00′, W. 34° 50′		29.88‡	758.9‡			80	26.7	82	E			1		10		Calm	0	0	Smooth		Cloudy.
Michigan. Erie, Pa.	30.19‡	766.8‡			33	0.6	70	N			2		10		N					Light snow.	
Monocacy, Shanghai, China	30.41‡	772.4‡			38	3.3	91	N			1		10							Cloudy.	
New Hampshire, Port Royal, S. C.	30.31‡	769.9‡			60	15.6	94	NE	4	1.8			Fog			0	0			Foggy.	
Nipsic, St. Thomas, W. I.	29.86‡	758.4‡			77	25.0	82	ENE			2		5		ESE					Showery	
Onward, Callao, Peru	†29.87‡	758.7‡			69	20.6	90	WSW			1		10					Mod'ate	W	Cloudy.	
Palos, Tientsin, China	30.53‡	775.4‡			28	2.2	100	SE			0–1		2?							Cloudy?	
Passaic, Washington, D. C.	30.20‡	767.1‡			50	10.0	93	SW			3		10		NE					Cloudy.	
Pensacola, Callao, Peru	29.86‡	758.4‡			69	20.6	95	ESE			0–1		10					Smooth		Hazy.	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.19‡	766.8‡			51	10.6	86	SW			2		10			0	0			Misty.	
Quinnebaug, Villafranca, France	30.43‡	772.9‡			52	11.1	66	SE			1		8		S					Fair	
Ranger, Honolulu, Sandwich Id's.	30.07‡	763.8‡			74	23.3	76	NE			2		2		Calm					Fair	
Richmond, Hong-Kong, China	30.08‡	764.0‡			60	15.6	76	NNW			1		10					Smooth		Cloudy.	
Rio Bravo, Brownsville, Texas	†30.19‡	766.8‡			61	16.1	100	SE	1	0.4			2		Calm	0	0			Fair.	
Santee, Annapolis, Md	30.19‡	766.8‡			50	10 0	100	SW			1		10		SW	0	0			Overcast.	
Shenandoah, Montevideo, Uruguay	29.90‡	759.4‡			66	18.9	68	SW			1		5					Smooth		Fair.	
St. Louis, League Island, Pa.	30.23‡	767.8‡			48	8.9	93	SW	2	0.9			10			0	0			Foggy	
Tennessee, Hampton Roads, Va.	30.25‡	768.3‡			49	9.4	100	SW	3	1.3			10		Calm	0	0			Overcast	
Trenton, Villafranca, France	30.43‡	772.9‡			56	13.3	57	SE			2		10			0	0	Smooth		D. clouds.	
Tuscarora, La Libertad, San Salvador.	29.92‡	760.0‡			75	23.9	72	N			0–1		0					Long	SE	Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.18‡	766.6‡			51	10.6	86	SW			2		10		SW					Foggy.	
Wabash, Boston, Mass.	30.09‡	764.3‡			50	10.0	79	SW	9	4.0			10			0	0			Foggy.	
Wachusett, Montevideo, Uruguay	†30.36‡	771.1‡			66	18.9	69	SW			2		0							Clear	
Wyoming, Toulon, France	30.40‡	772.1‡			55	12.8	46	SSE			0–1		5		SE			Smooth	SE	Fair.	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 50° 06′, W. 40° 20′		29.79‡	756.7‡				ENE			3				E	0			Fair	W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 41° 10′, W. 60° 57′		30 32‡	770.1‡	44	6.7		S			4		2		S		Smooth		Fair	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford Philadelphia, Pa.†		30.25‡	768 9‡	50	10.0	93	S			0		10		Calm				Cloudy	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Liverpool, Eng.		30.80‡	782.3‡	38	3.3		SW			3		6		SW	0			Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer, N. 50° 28′, W. 1° 19′		30.58‡	776.7‡				ESE			8		10		ESE		Mod'ate	ESE	Light rain	
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, San Francisco, Cal.†.		30.26‡	768.3‡	41	5.0	74	Calm			0		0						Clear	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.†.		30.04‡	763.01	62	16.7		NE			3		0		NE	Con-sid'ble	Smooth		Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.
NOTE.—The originals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

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

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio, J. Maury N. 29° 29′, E. 160° 40′		29.66‡	753.4‡	69	20.6	75	W			6		10		NW	0	Rough	NW	Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Z alandia, R. C. Ghest S. 10° 12′, W. 169° 28′		29.87‡	758.7‡				NW			2				E		Light	NW	Heavy rain	

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

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

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

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie K. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 36° 00′, W. 27° 28′	*	30.19‡	766.8‡	69	20.6		E			4		0				Smooth	E	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 33° 40′, W. 68° 58′	†	30.40‡	772.1‡	72	22.2		ENE			1		2			0	Smooth	NE	Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

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

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

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

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 13, 1880.

7:35 A. M. WASHINGTON Mean Time.

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

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

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.29	769.3				SW			1		9			0	0	Covered.	
Nemours			30.41	772.5	58.6	14.8	74	E			1		0			0	0	Clear.	Kesxuche.
Algiers			30.44	773.2	55.4	13 0	83	ENE			2		1			0.217	5.5	Very fair	Tourillere.
La Calle			30.35	770.9	46.8	8.2	81	ENE			8		10			0.177	4.5	Covered	Foufrede.
Tunis																			Jacques
Sfax																			Gau.
Saida			30.29	769.3															Herbin.
Tebessa			30.45	773.3															
Geriville			30.36	771.1	37.4	3.0	55	N			6		10			0.035	0.9	Covered	Watrin.
Laghouat								NW			1		0			0	0	Clear	Brugniaux.
Biskra			30.45	773.3	50.7	10.4	48	NE			6		0			0	0	Clear.	Bertrand.
			30.37	771.5	59.7	15.4	52	N			5		0			0	0	Clear.	Chanvaux

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.95	760.8	30.54	775.7	31.5	— 0.3	85	SE			2		5			0	0		Dr. Wierzbicki.
Eperies	29.64	752.8	30.45	773.5	29.8	— 1.2	94	WNW	7.8	3.5			10			0.016	0.4		Julius Mikolik.
Gratz	29.54	750.2	30.49	774.5	21.4	— 5.9	87	Calm			0		10			0.083	2.10		Andreas Rospini.
Hermannstadt	29.20	741.6	30.54	775.6	29.1	— 1.6	74	S			3		10			0	0		Prof. A. Gottschling
Kremsmünster	29.02	737.2	30.64	778.2	7.3	—13.7	92	ESE			1		0			0	0		Prof. C. Wagner.
Lemberg	29.08	738.7	30.53	775.4	25.7	— 3.5	87	WSW			1		0			0	0		Dr. T. Stanecki.
Pola	29.24	742.8	30.30	769.6	28.9	— 1.7	96	NW			2		10			0.031	0.8		I.R.Hydrographic Office
Seathmar	30.36	771.2	30.48	774.2	39.2	4.0	44	NNW			1		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.08	764.1	30.60	777.2	15.1	- 9.4	94	E			2		10			0.016	0.4		Karl Stancel.
Trieste	30.25	768.3	30.55	776.0	26.6	— 3.0	83	SE			1		10			0	0		P. Busin.
Vienna	30.00	762.1	30 11	764.7	39.4	4.1	59	NW			1		0			0	0	Clear.	I.R.Central Met. Ob'sy.
	29.72	755.0			30.9	— 0.6		NNE			1					0	0		

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

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.35	770.8	30.52	775.2	33.1	0.6	70	SSW			1	1	1		SW	0	0		Royal Observatory
Furnes	30.50	774.7	30.52	775.3	32 5	0.3	83	SW			2		6			0	0		M. E. de Cae.
Maeseyck	30.42	772.7	30.55	775.9	29.5	— 1.4	97	NE			0		0			0	0		M. Pierrot.

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

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

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.38	771.6	30.48	774.2	34.7	1.5		W	6	2.7			2			0	0	Blue sky	W. Boswell.
Ardrossan	30.50	774.7	30.52	775.2	34	1.1		ENE			1		8					Foggy	G.Carrick.
Armagh, (Observatory)	30.31	769.9	30.55	776.0	35.7	2.1		SE	1	0.4			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.51	774.9	32.1	0.1		ENE	1	0.4			10					Foggy	John Hartnup.
Bolton (Sharples)	29.92	760.0	30.46	773.7	31.0	— 0.6		ESE					10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	30.08	764.0	30.48	774.2	32.5	0.3	88	SE			3		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.80	756.9	29.83	757.7	80	26.7		NE			1		6					Gloomy	Pyt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.41	772.4	30.51	774.9	34.0	1.1		SE			1		10					Overcast	H. Todd.
Cardington			30.49	774.4	33 0	0.6		E			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.36	771.1	30.50	774.7	32.2	0.1		Calm*			0		10					Foggy	Geo. Stuart, Q. M. S'gt
Donaghadee	30.51	774.9	30.55	776.0	35	1.7		SSE			1		10					Overcast	J. Mac Gowan.
Dover	30.45	773.4	30.48	774.2	36	2.2		S			2		3					¼ clouded	J. Costello.
Falmouth (Observatory)	30.23	767.8	30.46	773.7	42.8	6.0		NW			1		0					Overcast	The Staff.
Fort Napier, Natal	27.52	699.0	29.74	755.4	75.2	24.0		NE			1		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.51	774.9	37	2.8		Calm			0		6			0	0	D. cloud	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.29	769.4	30.50	774.7	33.9	1.1		WSW			2		Fog					Overcast	D. G. Maclean.
Great Yarmouth	30.50	774.7	30.51	774.9	37	2.8		SE			2		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.31	769.9	30.49	774.4	31.6	— 0.2		ENE			1		10					Snowing	The Staff, for G.B.Airy.
Guernsey	30.16	766.1	30.38	771.6	46	7.8		WNW			3		8					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.57	776.5	30.70	779.8	43	6.1		N			2		4k			0.01	0.3	Fine	M. P. Moyle.
Holyhead	30.43	772.9	30.52	775.2	35	1.7		SSE			1		10					Overcast	John Tilston.
Jersey	30.16	766.1	30.47	773.9	43.0	6.1		SSW			3		10			Blank	Blank	Misty	J. Fisher.
Kew (Observatory)	30.44	773.2	30.48	774.2	33.3	0 7		ENE	5	2.2			10					Snow-fog	The Met'g'l Office.
Leicester (Museum)	30.25	768.3	30.52	775.2	33.0	0.6		SE			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.96	761.0	30.03	762.7	47 8	8.8		NE			5		9cn					Overcast	A. King.
Nairn	30.36	771.9	30.48	774.2	35	1.7		W			1		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.06	763.5	74.0	23.3		NE			3		5					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.31	769.9	30.51	774.9	31.9	— 0.1		SE			2		10			0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.95	760.7	30.51	774.9	29.9	— 1.2		E			0–1		10					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.35	770.9	30.43	772.9	39.0	3.9		NW			2		3					D. clouds	John Merrifield.
*Roche's Point	30.44	773.2	30.52	775.2	42	5.6		ENE			3		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.34	770.6	30.52	775.2	36	2.2		Calm			0		10					Misty	John C. Walker.
Sandwick Manse, Orkneys			30.42	772.7	41	5.0		W	25	11.2			10					Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.36	771.1	30.42	772.7	31.0	— 0.6		NNE			2		9					Snow-showers	Serg't W. H. Lyne.
Sheffield	30.34	770.6	30.54	775.7	32.5	0.3		E			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.48	774.2	30.51	774.9	28.5	— 1.9	70	E			1		10					Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.49	774.4	30.4	— 0.8		E	0	0			10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss					31.3	— 0.4		NE			1		10					Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.38	771.6	30.46	773.7	43	6.1		NE			4		10					Gloomy	W. Newcombe.
Valencia Observatory)	30.50	774.7	30.52	775.2	43.4	6.3		ESE	11	4.9						Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.86	758.4	29.90	759.4	65.0	18.3	52	S	20.8	9.3		0	2k			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7			78	25.6		NE				3k	8kn						Robert Burnet.
Constable, Cape Colony	26.70	678.2			75	23.9		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.16	766	59.0	15.		SE			Slight		Heavy			Heavy		Dark	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.54	775.7	34.0	1.1		W			1		10s			0	0	Overcast	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.95	760.7	80.3	26.8	55	SE	16.0	7.2		0	4		E	0.04	1.0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.55	750.6	29.64	752.8	67.3	19.6	51	WSW	12	5.4			2			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.52	775.2	41	5.0		SSE			3		10			0	0		
North Unst, Shetland Is			30.28	769.1				NW			4		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia			29.55‡	750.6‡	55	12.8		WSW			3		3					D. clouds	Capt. J.P. Maclear, R.N.
Barque Belle-Isle, N. 49° 50′, W. 8° 50′			30.50	774.7	51	10.6		NE			3		3			2		D. clouds	Capt. A. J. Brown.
City of Agra, N. 52° 50′, W. 156° 02′			29.93	760.2	46.8	8.2		W			2		10					Drizzling	Capt. Thos. Young.
City of Cashmere, S. 54° 20′, W. 89° 15′			28.85‡	732.8‡	46.4	8.0		WNW			1		10			Confused		Drizzling	Capt. W. M. Grieve.
Barque Commewyne, N. 34° 15′, W. 54° 00′			30.15‡	765.8‡	64	17.8		N			4		9					Overcast	Capt. Jas. Buchan.
S. S. Decapolis, N. 47° 53′, W. 13° 28′			30.35‡	770.9‡	54.3	12.4		SE			5		10					Misty	Capt. T. M. Almond.
Barque Dochra, S. 20° 40′ W. 124° 10′			30.02‡	762.5‡	77	25.0		ENE			5		6					D. clouds	Capt. N. Spalding.
Barque Fedalma, N. 41° 55′, W. 28° 40′			29.71	754.6	60	15.6		SSE			6		10			3	SSW	Drizzling	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony			29.86‡	758.4‡	79	26.1		SSE			5		3					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 24° 05′, W. 75° 15′			29.97	761.2	76	24.4		NE			6		4			6	E	Misty	Capt. W. H. Stuart.
S. S. Strathleven, N. 28° 40′, E. 33° 00′			30.02‡	762.5‡	58.5	14.7		NNW			3		4					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

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

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.22	666.0	29.94	760.5	60.4	15.8	78	SE			2		3d		E	0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	30.20	767.1	30.25	768.3	35.1	1.7	93	NW			2		10						
Faröe	30.37	771.4	30.39	771.9	36.9	2.7	93	WNW			4		8						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.50	774.6	30.54	775.7	26.2	— 3.2	91	E			4		0						
Thorshavn (Faröe)	30.40	772.1	30.43	773.0	55.1	1.7	71	N			4		3						
Vestervig	30.17	766.2	30.28	769.0	38.3	3.5	80	WNW			4		10						

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

FRENCH SERIES.

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

Alençon, Normal School	29.99	761.8	30.54	775.8	31.1	— 0.5	89	E			1		10			0	0	Covered	Collignon, Director.
Amiens, Normal School	30.41	772.4	30.52	775.3	34.9	1.6	71	E			1		2		SW	0	0	Slightly cld'y	Vaillant, Director.
Arras, Engin'r School	30.24	768.2	30.52	775.2	32.0	0.0	87	S			1		2k;8		SW	0	0		Klein, Commandant.
Avignon, Normal School	30.44	773.2	30.52	775.2	40.6	4.8	39	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.98	761.4	30.58	776.7	25.3	— 3.7	94	S			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.25	768.4	30.54	775.7	30.4	— 0.9	89	ENE			1		5			0	0	Cloudy	Frère Eugene Marie.
Besançon, Normal School	29.65	753.2	30.64	778.2	24.3	— 4.3		NE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.31	769.9	30.51	774.9	31.5	— 0.3	100	SE			1					0	0	Foggy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.68	753.8	30.59	776.9	25.2	— 3.8	100	N			1		10			0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.96	761.0	30.56	776.3	25.2	— 3.8	98	ENE			1		10		NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.22	767.6	30.47	773.8	48.6	9.2	89	Calm			0		3k		NW	0.167	4.26		Ch. de Kermaree, Dir
Caen, Normal School	30.41	772.4	30.49	774.4	36.3	2.4	71	S			1		8		SE	0	0	Very cloudy	M. Bietrin, Director.
Carcassonne, N. School	30.01	762.2	30.44	773.1	46.2	7.9	66	NNE			1		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.27	768.9	30.61	777.6	32.0	0.0		Calm			0		2					Slightly cld'y	Jadot, Director
Chartres, Normal School	29.94	760.5	30.56	776.1	24.8	— 4	20	SSE			1		10			0	0	Foggy	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.06	738.1	30.52	775.3	25.5	— 3.6	100	NW			1		10			0	0	Foggy	Alluard, Director.
Commercy, Normal School	29.63	752.6	30.56	776.2	26.2	— 3.2		E			1		1		E	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.37	746.0	30.51	775.0	47.3	8.5	64	SW			1		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.78	756.4	30.61	777.5	29.1	— 1.6		ENE			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.29	769.3	30.51	775.0	41.7	5.4	66	E			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.23	767.8	30.56	776.1	27.0	— 2.8	74	SSE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.61	752.0	30.61	777.4	21.7	— 5.7	43	N			1		10			0	0	Foggy	A. Baudry, Director
Lorient, Naval Observatory	30.39	771.8	30.50	774.6	38.5	3.6	100	SSE			1					0.067	1.7	Foggy	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.91	759.6	30.58	776.6	26.2	— 3.2	82	ESE			1		10			0	0	Misty	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.19	766.9	30.47	773.9	51.1	10.6	60	SW			1		3		WSW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.40	746.8	30.54	775.6	24.8	— 4	87	SE			4		0			0	0	Clear	Barbier, Director.
Mont-Louis	25.15	638.7	30.46	773.7	40.1	4.5	37	S	7.4	3.3			0			0	0		M. Cave
Nice	30.43	772.8	30.46	773.7	49.6	9.8	64	W			2		1	W	W	0	0	Clear	M. Bolssière, Director.
Nismes, Normal School	30.30	769.6	30.51	775.0	48.0	8.9	67	SE			1		0			0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.26	768.5			23.0	— 5.0	90	S			1		10			0	0	Foggy	Marié Davy, Director.
Perpignan	30.38	771.6	30.49	774.5	46.0	7.8	70	SW	0	0			3		E	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.74	577.6			36.1	2.8										0	0		Gen'l de Nansouty.
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.38	746.3	30.52	775.2	31.1	— 0.5		N			1		1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summ't) Obs	25.44	646.2			41.0	5.0	33	W			1		0			0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.52	775.1	30.55	775.9	33.8	1.0	80	ENE			3			ENE	ENE	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	30.43	773.0	30.52	775.2	29.8	— 1.2	86	SSW			1		2		W	0	0	Slightly cld'y	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.45	773.4	30.47	773.8	34.7	1.5	93	S			1		10	S	S	0.193	4.90	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.39	771.8	30.50	776.0	23.5	— 4.7	100	S			1		10			0	0		E. Renou, Director.
Tarbes, Normal School	29.31	744.4	30.41	772.3	53.6	12	36	S			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.80	756.9	30.53	775.5	30.7	— 0.7	98	SE			1		10			0	0	Foggy	M. Juhier Mercadier.
Tours	30.32	770.0	30.51	775.0	25.9	— 3.4		SE			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	30.01	762.2	30.50	774.8	25.9	— 3.4	95	ESE			1		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.84	757.8	30.61	777.4	27.5	— 2.5	96	ESE			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	756.9	29.83	757.6	77.0	25										1.38	35.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.39	772.0	30.42	772.6	37.6	3.1	92	NE	5.4	2.4			10n			0.035	1.4	Raining	Marc Dechevreus.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,012.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.60	751.9	30.48	774.2	26.1	— 3.3	68	E			2		3s			0	0		Prof. Dr. Hoh.
Berlin	30.25	768.4	30.43	773.0	32.4	0.2	89	W			1		10			0.012	0.3		Prof. Dr. Arndt.
Breslau	29.90	759.4	30.44	773.1	29.5	— 1.4	82	WSW			3		10			0	0		Royal University Obs'y.
Carlsruhe	30.08	764.1	30.55	775.9	28.4	— 2.0	91	W			2		0			0	0		Albert Senz.
Cassel	29.87	758.7	30.49	774.4	29.1	— 1.6	89	SE			2		1	W		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.23	767.7	30.61	777.5	30.2	— 0.1	59	WSW			1		2			0	0		Physical Society.
Friedrichshafen	29.05	737.8	30.60	777.2	24.4	— 4.2	77	NE			3		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.40	772.2	30.47	774.0	34.2	1.2	94	W			2		10			0.020	0.5	Foggy	Dr. Reinhold Kleeman.
Kiel	30.39	771.8	30.40	772.2	37.4	3.0	84	W			2		9			0.037	0.93		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.06	763.4	30.14	765.6	33.6	0.9	93	W			5		10			0.020	0.5	Rain & snow	Prof. E. Luther.
Köslin			30.25	768.4	32.7	0.4		N			2		6			0	0		H. Müller.
Leipsic Observatory	30.07	763.8	30.52	775.2	30.2	— 1.0	78	WSW			1		9	WNW		0	0		Prof. Dr. Bruhns, Privy Counselor.
Magdeburg	30.24	768.2	30.48	774.1	34.3	1.3	78	W			2		9ks	W		0	0		Dr. Assmann.
Memel	30.06	763.4	30.10	764.6	33.8	1.0	96	NW			4		10n						Reinbrecht & Issermann.
Munich (München)	28.62	726.9	30.51	775.0	18.7	— 7.4	96	NW			1		6	SW		0	0		Dr. C. Lang.
Neufahrwasser	30.19	766 7	30.20	767.1	34.7	1.5	80	WNW			2		10			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.98	761.5	30.52	775.1	28.2	— 2.1		E			1					0	0		Reallehrer Dicknether
Posen	30.04	763.1	30.35	770.9	32.7	0.4	94	W			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.0	30.60	777.1	26.4	— 3.1	87	SW			1		1			0	0		Imp. University Observatory.
Stuttgart	29.55	750.5	30.52	775.1	27.5	— 2.5	85	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.16	766.1	30.35	771.0	32.9	0.5	95	SW			3		10			0 004	0.09		Dr. Cunerth.
Weissenburg (Bavaria)	28.97	735.7	30.57	776.4	22.6	— 5.2	93	W	0.9	0.4		4ck		SE		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.34	770.5	30.35	770.9	35.6	2.0	100	W			5		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.97	761.2	30.38	771.7	34.9	1.6		NE			3.0		5					½ Clear	Dr. J. F. J Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.92	759.9	29.97	761.2	74.9	23.8	56	WSW	4	1.8			0			0	0	Blue sky	
Deesa	29.48	748.8	29.96	761.0	78.7	25.9	45	NNW	6.0	2.7			0			0	0	Blue sky	
Bombay	29.86	758.4	29.90	759.4	73.5	23.1	81	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.6	29.85	758.1	86.0	30.0	14	ENE	1	0.4			0			0	0	Blue sky	
Belgaum	27.34	694.4	29.85	758.1	82.7	28.2	42	NE	4	1.8			0			0	0	Blue sky	
Lahore	29.20	741.8	29.98	761.4	61.6	16.4	41	Calm	0.4	0.2			0			0	0	Blue sky	
Roorkee	29.02	737.1	29.96	760.8	61.6	16.4	60	SW	2.0	0.9			0			0	0	Blue sky	
Agra	29.38	746.3	29.97	761.2	65.8	18.8	54	Calm	1.5	0.7			0			0	0	Blue sky	
Nagpur	28.88	733.5	29.93	760.3	75.9	24.4	40	Calm	1.7	0.8			0			0	0	Blue sky	
Jubbulpore	28.54	724.9	29.93	760.3	71.0	21.7	38	Calm	1.1	0.5			0			0	0	Blue sky	
Lucknow	29.56	750.8	29.85	758.2	66.6	19.2	48	Calm	0.2	0.1			0			0	0	Blue sky	
Allahabad	29.63	752.7	29.96	761.0	61.3	16.3	60	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.76	756.0	29.95	760.8	67.4	19.7	60	Calm	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.87	707.9	29.94	760 5	64.6	18.1	26	WNW	4.3	1.9			0			0	0	Blue sky	
Cuttack	29.84	758.0	29.92	760.1	74.2	23.4	61	Calm	0.4	0.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.90	759.6	29.93	760.1	69.7	20.9	67	Calm					0			0	0		
Goalpara	29.52	749.9	29.93	760.1	69.2	20.7	54	S	1.1	0.5			7		W	0	0	D. clouds	
Chittagong	29.85	758.2	29.94	760.5	67.2	19.6	74	WNW	2.7	1.2			0			0	0	Misty	
Sibsagar	29.61	752.1	29.96	761.0	65.8	18.8	73	Calm	1.0	0.4			6	SW	SW	0	0	D clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

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

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

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Le'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.07	763.6	30.50	774 7	36.0	2.2	64	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.98	761.5	30.54	775.6	28.6	— 1.9	88	SSW	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.41	772.5	30.53	775.5	30.7	— 0.7	67	NW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.53	750.0	30.46	773.8	26.6	— 3.0	74	ENE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.28	769.0	30.48	774.1	43.0	6.1	41	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.49	723.6	30.51	775.0	29.7	— 1.3	64	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.46	773.6	30.51	774.9	34.0	1.1	80	W	15.4	6 9	.....	.....	4	NNE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.21	767.2	30.48	774.1	41.0	5.0	43	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.40	772.1	30.49	774.4	40.6	4.8	65	N	4.9	2.2	.....	.....	0	.....	.....	0.276	7.0	.....	Prof. P. Monte.
Rome	30.19	766.8	30.37	771.5	45.1	7.3	33	N	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.03	762.7	30.30	769.5	37.4	3.0	64	N	19.2	8.6	.....	.....	2	N	.....	0.028	0.7	.....	Prof. C. De Giorgi
Cosenza	29.34	745.3	30.27	768.8	34.9	1.6	85	NW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.14	765.5	30.34	770.7	46.9	8.3	42	N	.....	.....	2	.....	5	NE	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.97	761.1	30.23	767.7	40.6	4.8	62	NNE	14.3	6.4	.....	.....	9	NNE	.....	0.201	5.1	.....	Prof. G. Ciaccatore.
Syracuse	30.01	762.3	30.06	763.4	45.1	7.3	74	NE	27.3	12.2	.....	.....	10	NE	.....	0.346	8.8	.....	Prof. V.G. Guliano.
Sub-Series.																			
Naples, S. R.	29.78	756.4	30.33	770.4	40.8	4.6	49	ENE	13.7	6.1	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

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

Hiroshima, I. M. Obs'y	30.25	768.8	30.26	768 6	35.8	2.1	81	NNE	5.5	2.5	.....	0	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.05	763.3	30.26	768.6	39.4	4.1	79	NNE	2.6	1.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory.	30.11	764.8	30.18	766.6	32.0	0.0	57	N	6.3	2.8	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.12	766.8	30.24	768.1	37.2	2.9	75	E	4.6	2.1	.....	.....	0	.....	.....	0	0	Clear	.....

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

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Colima																			R. Banda, C. E.
Guadalajara	25.16	639.6	30.39	771.9	40.6	4.8	51	Calm	.....	.....	0	1ck	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.54	623.4	30.33	770.4	53.2	11.8	83	NE	.....	.....	5	4ks	0	SE	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.80	756.8	30.06	763.5	58.6	14.8	95	SE	.....	.....	2	1cs	0	SW	.....	0	0	Foggy	F. Quijano, C. E.
Mexico, Central Observatory	23.16	588.3	30.32	770.2	45.9	7.7	80	NW	4.9	2.2	.....	.....	10pk	.....	.....	0	0	Covered	The Staff.
Morelia	24.07	611.3	.....	.....	55 9	13.3	79	NE	.....	.....	4	3c	5s	SE	S	0	0	Fair	M. Fena, M. D.
Pabellon (Aguascalientes)	24.07	611.4	30.26	767.0	48.7	9.3	73	Calm	.....	.....	0	3ks	0	SE	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.7	30.41	772.3	46.3	7.4	42	Calm	0	0	.....	8ck	0	NE	.....	0	0	Cloudy	Prof. P. Spina.
San Luis Potosi	24.33	617.9	30.30	769.7	59.4	15.2	63	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.13	765.4	30.16	765.7	71.6	22.0	88	N	.....	.....	3	2	3	NNE	E	0	0	Fair	Prof. M. M. Chazaro.
Vera-Cruz	30.18	766.6	30.21	767.3	70.7	23.5	59	NW	15.6	7.0	.....	2c	3k	.....	.....	0	0	Fair	Prof. J. Rossell
Zacatecas	22.65	574.4	30.44	773.1	46.0	7.8	80	SE	.....	.....	5	.....	Fog	.....	SE	0	0	Foggy	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.5 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

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

Flushing	30.54	775.7	30.54	775.7	32.4	0.2	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.48	774.3	30.54	775.7	33.1	0.6	.....	W	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.52	775.3	30.52	775.3	30.7	— 0.7	.....	SE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.52	775.2	30.52	775.2	30.7	— 0.7	80	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.6	30.54	775.8	32.2	0.1	78	E	.....	.....	0	.....	2	.....	.....	0	0	Sl'ly cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.13	765.4	30.19	766.8	43.2	6.2	88	WSW	17.2	7.7	.....	.....	10	.....	.....	0.079	2.0	Raining	
Brönö	29.61	752.1	29.85	753.1	30.2	— 1.0	84	NW	22	10	.....	.....	8	.....	.....	0	0	.....	
Christiana	29.90	759.4	30.06	763.4	20.1	— 6.6	95	W	0	0	.....	.....	10	.....	.....	0	0	Light fog	
Tromsö	29.16	740.7	29.21	741.8	31.5	— 0.3	87	NNE	11	5	.....	.....	10	.....	.....	0.102	2.6	.....	

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

PORTUGUESE SERIES.

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

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.39	746.4	30.42	772.6	50.7	10.4	53	ENE	6.3	2.8	.....	2	.....	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.08	763.9	30.15	765.9	66.9	19.4	55	SW	3.8	1.7	.....	0	.....	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.04	763.1	30.42	772.6	48.4	9.1	69	NE	7.4	3.3	.....	1	.....	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.92	759.9	29.99	761.7	60.4	15.8	62	SSW	19.9	8.9	.....	3	.....	.....	.....	0.047	1.2	.....	

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

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa.																			
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	78.1	25.6	.....	NE	.....	.....	3	.....	6	.....	NE	2	NE	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. S. 18° 12′, E. 12° 39′	.....	.....	29.84	757.9	72.7	22.6	.....	WSW	.....	.....	4	.....	7	.....	W	3	SSW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.30	769.5	55.4	13.0	.....	N	.....	.....	4	.....	10	.....	.....	3	.....	Overcast	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Archangel	29.33	744.9	29.35	745.4	21.2	— 6.0	93	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselwerstow.
Astrakhan	30.34	770.5	30.25	768.4	18.5	— 7.5	81	N	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.95	760.8	30.54	775.6	—12.1	—24.5	90	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.65	753.0	29.90	759.4	30.9	— 0.6	100	W	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.99	736.4	30.04	763.1	7.7	—13.5	89	WSW	22	10	.....	.....	10	.....	.....	.....	.....	Snow-drift	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.58	751.3	29.57	751.0	11.3	—11.5	93	SSW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.42	747.2	30.10	764.5	19.6	— 6.9	100	W	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow	Physical Cabinet.
Krotkowo*	29.54	750.4	30.06	763.5	10.4	—12.0	79	S	9	4	.....	.....	10	.....	.....	.....	.....	Snow-fog	Cand. Fatjanow.
Lugan	30.03	762.7	30.26	768.5	6.4	—14.2	79	SSW	2	1	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs
Moscow	29.22	742.2	29.80	756.9	23.7	— 4.6	74	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.09	713.5	30.80	782.2	—22.4	—30.2	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.36	771.2	30.43	773.0	6.1	—14.4	92	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.97	761.3	30.23	767.7	21.9	— 5.6	88	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.31	769.8	30.45	773.4	21.9	— 5.6	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.73	755.2	29.76	755.6	22.5	— 5.3	98	WSW	9	4	.....	ck	5ks	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.60	726.4	30.27	768.8	30.6	— 0.8	92	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.68	728.5	30.17	766.4	31.5	— 0.3	61	NW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.84	758.0	30.29	769.4	31.1	— 0.5	94	W	18	8	.....	.....	10n	.....	.....	.....	.....	Light rain	Astronomical Obs.
Wilna	29.66	753.3	30.10	764.4	32.4	0.2	96	NW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.18	766.6	30.52	775.3	—20.4	—29.1	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.38	771.6	30.48	774.3	50.4	10.2	50	WNW	2.9	1.31	.....	0	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.39	772.0	30.45	773.5	54.7	12.6	48	SE	2.7	1.19	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.46	697.4	.....	.....	32.9	0.5	90	S	1.0	0.44	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.21	716.6	30.55	775.9	42.6	5.9	69	E	5.2	2.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.37	771.5	30.53	775.5	46.4	8.0	81	W	0.8	0.39	.....	5	5	WSW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.51	749.5	30.43	772.8	51.8	11.0	48	SE	1.8	0.8	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.02	762.6	30.09	764.2	74.0	23.3	72	N	7.4	3.3	.....	0	5k;ks	.....	NE	0.039	1.0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	29.91	759.7	29.96	761.1	80.6	27.0	66	ENE	5.1	2.3	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.0	30.38	771.5	60.3	15.7	53	ESE	21.3	9.5	.....	0	1	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.75	755.6	29.84	757.9	76.3	24.6	87	SE	0	0	.....	4cs	3k	SE	SE	0	0	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 880 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.30	745.7	29.40	746.7	25.5	— 3.6	.....	W.	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.58	751.2	29.63	752.5	31.3	— 0.4	70	NW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	35.2	1.8	66	WSW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.78	756.3	29.95	760.8	31.8	— 0.1	76	WNW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Wisby	29.90	761.0	30.02	762.5	34.9	1.6	85	W	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.83	757.6	29.91	759.8	32.5	0.3	80	WSW	7.8	3.5	.....	.....	9	.....	WNW	0.000	0.01	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

SWISS SERIES.

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

Geneva	29.38	738.6	30.00	777.1	25.3	— 3.7	90	ESE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.84	732.5	30.58	776.8	24 4	— 4.2	80	W	.....	.....	1	.....	7	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +10 9 mm.; Thermometer, —5.1 Cent.; Relative Humidity, —11 per cent

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1.339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

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

Constantinople	.....	.....	30.51	775.0	29.8	— 1.2	100	N	4	2.0	.....	.....	10	.....	N	0.748	19.0	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.4	41.5	5.3	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.14	765.6	54.5	12.5	67	NNW	.....	.....	3	.....	8n	.....	NNW	0.14	3.6	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	30.22	767.6	30.22	767.6	11.6	—11.3	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.22	767.6	30.28	769.1	14.3	— 9.8	91	N	12	5.4	.....	.....	10n	.....	.....	0.01	0.3	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.3	22.0	— 5.6	100	N	15	6.7	.....	.....	10n	.....	.....	0.24	6.1	Light snow.	H. J. Cundall, G. E.
Cornwall, Ontario	30.26	768.6	30.48	774.2	3.8	—15.7	100	N	.....	.....	1	4cs	1s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	30.18	766.6	30.37	771.4	6.0	—14.4	.....	W	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	30.50	774.7	30.52	775.2	1.0	—17.2	85	N	20.0	8.9	.....	.....	10s	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.21	767.3	30.28	769.1	17.5	— 8.1	92	N	9	4.0	.....	.....	10n	.....	.....	0.21	5.3	Snowing	Prof. Harrison.
Fort Garry, Manitoba	29.17	740.9	30.14	765.5	—22.4	—30.2	100	S	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	29.28	743.7	30.47	773.9	20	— 6.7	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.94	760.5	30.08	764.0	29.2	— 1.6	98	N	10	4.5	.....	.....	10n	.....	.....	0.12	0.5	Sleeting	A. Allison.
Hamilton, Ontario	30.00	763.5	30.46	773.7	19.7	— 6.8	95	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.06	763.5	30.43	772.9	12.0	—11.1	82	NE	6	2.7	.....	2c	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	29.2	— 1 6	89	S	4	1.8	.....	.....	10	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	30.29	769.4	30.51	774.9	7.3	—13.7	70	NE	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.38	771.6	30.42	772.7	—28.8	—33.8	89	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. R. Nesson.
Norwood	29.69	754.1	30.46	773.7	11.6	—11.3	94	E	8	1.3	.....	1cs	0	.....	.....	0.05	1.3	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.65	753.1	30.40	772.1	22.0	— 5.6	86	W	10	4.5	.....	.....	10n	.....	W	0.06	1.5	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.68	753.9	30.51	774.9	12.7	—10.7	53	SE	.....	.....	1	0	3ks	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.78	755.1	30.48	774.2	19.0	— 7.2	100	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Stanley, Ontario	29.77	756.1	30.48	774.2	20.2	— 6.6	97	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	M. Payne.
Quebec, Quebec	30.11	764.8	30.47	773.9	9.0	—12.8	78	E	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.00	762.0	30.18	766.6	22	— 5.6	100	NE	18	8.0	.....	.....	10n	.....	.....	0.25	6.3	Snowing	G. Murdock, C. E.
Saugeen, Ontario	29.62	752.3	30.39	771.9	25.0	— 3.9	89	S	12	5.4	.....	.....	9n	.....	.....	0	0	Cloudy	K. Stewart.
Stratford, Ontario	29.62	737.1	30.41	772.4	17.8	— 7.9	95	SW	6.0	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A
Sydney, C. B	30.05	763.3	30.09	764.3	30.0	— 1.1	90	NE	3	1.3	.....	.....	10s	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	30.00	763.5	30.48	774.2	18.9	— 7.3	86	NE	5	2.2	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory
Windsor, N. S	30.04	763.0	30.14	765.5	27.0	— 2.8	94	N	13	5.8	.....	.....	10n	.....	.....	0.13	3.3	Light snow.	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.31	744.5	30.47	773.9	16.6	— 8.6	98	SE	3	1.3	.....	1cs	0	.....	.....	0	0	Clear	Professor Wolverton.
Yarmouth, N. S	29.98	761.5	30.05	763.3	30.5	— 0.8	88	NE	5	2.2	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.71	754.6	29.97	761.2	31	— 0.6	.....	W	.....	.....	.....	.....	10	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.04	763.0	24.8	— 4.0	.....	SE	.....	.....	2	.....	n	.....	.....	0	0	Cloudy	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

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

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.15	765.8	30.40	772.1	16	— 8.9	83	NE	17	7.6			10s		Calm	0.37	9.4	Cloudy	
Alpena, Michigan	29.70	754.4	30.42	772.7	13	—10.6	81	NW	4	1.8		6	5s		Calm	0	0	Fair	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.13	739.9	30.33	770.4	39	3.9	72	NW	20	8.9			10s		NW	0.26	6.6	Cloudy	
Atlantic City, New Jersey	30.18	766.6	30.19	766.8	26	— 3.3	100	N	22	9.8			10n		Calm	0.23	5.8	Heavy snow	
Augusta, Georgia	30.03	762.7	30.23	767.8	54	12.2	74	W	10	4.5		Haze	Haze	Calm	Calm	0.01	0.3	Light haze	
Baltimore, Maryland	30.29	769.4	30.35	770.9	28	— 2.2	88	N	11	4.9			10n		Calm	0.26	7.4	Light snow	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	28	— 2.2	100	N	33	17 0			10n		N	0.26	6.6	Heavy snow	
Bismarck, Dakota	27.87	707.9	29.73	755.1	5	—15.0	87	SE	12	5.4			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.96	735.6	30.37	771.4	38	3.3	72	N	6	2.7		0	0			0	0	Clear	
Boise City, Idaho	27.15	689.6	30.11	764.8	37	2.8	71	SE	8	3.6			10s		Calm	0.02	0.5	Cloudy	
Boston, Massachusetts	30.07	763.8	30.25	768.3	65	18.3	87	NW	19	8.5			10n		N	0.50	12.7	Light snow	
Brackettville, Texas	29.28	743.7	30.41	772.4	40	4.4	82	N	1	0.4		0	0			0	0	Clear	
Breckenridge, Minnesota	29.07	738.4	30.19	766.8	— 3	—19.4	100	SE	22	9.8		0	0			0	0	Clear	
Brownsville, Texas	30.30	769.6	30.35	770.9	54	12.2	109	N	8	3.6			10n		N	0.57	14.5	Light rain	
Buffalo, New York	29.71	754.9	30.47	773.9	23	— 5.0	73	NE	2	0.9		0	Sm'e		Calm	Inap.	Inap.	Clear	
Burkes, Arizona																			
Burlington, Vermont	30.17	766.3	30.49	774.4	12	—11.1	61	N	11	4.9			10s		W	0.05	1.3	Cloudy	
Cairo, Illinois	30.18	766.6	30.60	777.2	33	0.6	79	E	4	1.8		0	0			0.36	9.1	Clear	
Campo, California	27.42	696.5	30.09	764.3	27	— 2.8	76	E	3	1.3		5ck	0	SE		0	0	Fair	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	49	9.4	100	NE	16	7.2			10n		Calm	0.02	0.5	Light rain	
Cape Henry, Virginia	30.13	765.3	30.15	765.8	38	3.3	91	N	40	17.9			10n		NW	0.46	11.7	Heavy rain	
Cape Lookout, N. Carolina	30.03	762.7	30.04	763.0	69	20.6	100	W	14	6.3		8cs	Fog	Calm	W	0.02	0.5	Cloudy	
Cape May, New Jersey	30.19	766.8	30.22	767.6	28	— 2.2	100	N	30	17.4			10n		N	0.21	5.3	Heavy snow	
Castroville, Texas	29.65	753.1	30.39	771.9	43	6.1	67	N	6	2.7		0	0			0	0	Clear	
Cedar Keys, Florida	30.18	766.6	30.20	767.1	62	16.7	94	NW	10	4.5			Fog		N	0	0	Dense fog	
Charleston, South Carolina	30.08	764 0	30.13	765.3	59	15.0	88	W	7	3.1		0	8s		W	0	0	Cloudy	
Charlotte, North Carolina	29.35	745.5	30.19	766.8	45	7.2	84	NE	10	4.5			10s		NW	0.17	4.3	Cloudy	
Chattanooga, Tennessee	29.60	751.8	30.46	773.7	34	1.1	79	N	8	3.6		0	2ks		NW	0.30	7.6	Fair	
Cheyenne, Wyoming	23.83	666.5	29.82	757.4	32	0.0	50	SW	5	2.2		0	0			0	0	Clear	
Chicago, Illinois	29.72	754.9	30.46	773.7	30	— 1.1	68	Calm	0	0		0	0			0	0	Clear	
Cincinnati, Ohio	29.89	759.2	30.60	777.2	27	— 2.8	88	SE	2	0.9			Fog		Calm	0.57	14.5	Dense fog	
Cleveland, Ohio	29.71	754.6	30.51	774.9	18	— 7.8	84	S	1	0.4		0	1s		Calm	0	0	Clear	
Coleman City, Texas	28.64	727.4	30.44	773.2	30	— 1.1	78	N	5	2.2		0	0			0	0	Clear	
Columbus, Ohio	29.66	753.4	30.58	776.7	19	— 7.2	85	NW	2	0.9			Fog		Calm	0.05	1.3	Foggy	
Concho, Texas	28.55	725.2	30.38	771.6	28	— 2.2	88	N			1	0	0			0	0	Clear	
Corsicana, Texas	30 03	762.7	30.54	775.7	37	2.8	81	N	4	1.8		0	0			0.40	10.2	Clear	
Davenport, Iowa	29.80	756.9	30.50	774.7	25	— 3.9	75	E	3	1.3		0	0			0	0	Clear	
Dayton, Washington T'y					43	6.1	75	W	4	1.8			10s		W	0.46	11.7	Cloudy	
Deadwood, Dakota	24.97	634.2			40	4.4	56	SW	24	10.7			10s		Calm	0	0	Cloudy	
Decatur, Texas																			
Denison, Texas	29.69	754.1	30.54	775.7	33	0.6	79	N	3	1.3		0	0			0.01	0.3	Clear	
Denver, Colorado	24.67	626.6	29.89	759.2	24	— 4.4	61	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.49	749.0	30.45	773.4	19	— 7.2	69	SE	2	0.9		0	Sm'e		Calm	0	0	Clear	
Detroit, Michigan	29.72	754.9	30.45	773.4	25	— 3.9	87	SW	8	3.6		0	2s		Calm	0	0	Clear	
Dodge City, Kansas	27.65	702.3	30.14	765.5	18	— 7.8	68	S	14	6.3		0	0			0	0	Clear	
Dubuque, Iowa	29.72	754.9	30.50	774.7	16	— 8.9	66	Calm	0	0		0	0			0	0	Clear	
Duluth, Minnesota	29.68	753.9	30.47	773.9	— 8	—22.2	79	SW	2	0.9		0	0			0	0	Clear	
Eagle Pass, Texas	29.70	754.4	30.47	773.9	50	10.0	65	N	6	2.7		0	0			0	0	Clear	
Eastport, Maine	30.12	765.0	30.19	766.8	20	— 6.7	100	N	20	8.9			10n			0.54	13.7	Heavy snow	
Edinburg, Texas																			
El Paso, Texas					53	11.7	93	NW			4		10n		N	0.52	13.2	Rainy	
Erie, Pennsylvania	29.71	754.6	30.48	774 2	24	— 4.4	74	SE	3	1.3		0	0			0.11	2.8	Clear	
Escanaba, Michigan	29.78	756.4	30.52	775.2	2	—16.7	44	NW	4	1.8		0	0			0.02	0.5	Clear	
Florence, Arizona	28.56	725.4	30.16	766.1	48	8.9	70	E	12	5.4		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.44	697.0	29.36	745.7	9	—12.8	78	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.45	671.8			38	3.3	80	SW	28	12.5			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.47	646.9	30.43	772.9	28	— 2.2	66	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.94	760.5	30.53	775.4	27	— 2.8	76	Calm	0	0		0	0			0	0	Clear	
Fort Grant, Arizona	25.38	644.6	30.18	766.6	34	1.1	36	NE	24	10.7		0	0			0	0	Clear	
Fort Griffin, Texas	29.21	741.9	30.59	777.0	30	— 1.1	78	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	26.81	681.0			18	—10.6	61	NE	4	1.8		0	0			0	0	Clear	
Fort McKavett, Texas	28.11	714.0	30.17	766.3	31	— 0.6	38	N	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.24	742.7	30.46	773.7	25	— 3.9	62	N	6	2.7		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.72	704.1			5	—15.0	88	SE	10	4.5		0	0			0	0	Clear	
Fort Verde, Arizona					27	— 2.8	76	NW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.54	724.9	30.20	767.1	35	1.7	53	N	8	3.6		0	2ks		Calm	0	0	Fair	
Galveston, Texas	30.37	771.4	30.41	772.4	49	9.4	78	NE	22	9.8		0	1ks		NE	0.10	2.5	Clear	
Graham, Texas	29.39	746.5	30.55	776.0	22	— 5.6	86	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.74	755 4	30.43	772.9	30	— 1.1	78	N	4	1.8		0	5s		NW	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	29.59	750.0	30.55	776.0	27	— 2.8	88	N	1	0.4		0	0			0	0	Clear	
Indianapolis, Indiana	29.67	753.6	30.52	775.2	23	— 5.0	86	SE	2	0.9			Fog		SE	0.01	0.3	Dense fog	
Indianola, Texas	30.40	772.1	30.43	772.9	51	10.6	72	NE	23	10.3		0	0			0.09	2.3	Clear	
Jacksboro, Texas	29.26	743.2	30.48	774.2	34	1.1	69	N	3	1.3		0	0			0	0	Clear	
Jacksonville, Florida	30.16	766.1	30.18	766.6	57	13.9	87	NE	1	0.4		0	0			0	0	Clear	
Keokuk, Iowa	29.80	756.9	30.47	773.9	27	— 2.8	76	Calm	0	0		0	0			0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	73	22.8	81	NE	16	7.2		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.07	763.8	30.10	764.5	42	5.6	100	NE	50	22.4			10n		NE	0.07	1.8	Light rain	
Knoxville, Tennessee	29.44	747.8	30.52	775.2	32.5	0.3	70	N	8	3.6			10ks		N	0.12	3.0	Cloudy	
La Crosse, Wisconsin	29.69	754.1	30.51	774.9	12	—11.1	61	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.33	668.8	30.48	774.2	29	— 1.7	45	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	30.07	763.8	30.42	772.7	53	11.7	86	NE	11	4.9			10s		NE	0	0	Cloudy	
Leavenworth, Kansas	29.54	750.3	30.45	773.4	26	— 3.3	63	S	3	1.3		0	0			0	0	Clear	
Lewiston, Idaho																			
Little Rock, Arkansas	30.20	767.1	30.59	777.0	36	2.2	90	N	4	1.8		0	0			0.09	2.3	Clear	
Los Angeles, California	29.76	755.9	30.11	764.8	49.0	9.4	44	N	9	4.0		0	1s		Calm	0	0	Clear	
Louisville, Kentucky	29.95	760.7	30.56	776.2	29	— 1.7	89	N	2	0.9			Sm'e		Calm	0.57	14.5	Dense smoke	
Lynchburg, Virginia	29.62	752.3	30.34	770.6	35	1.7	71	NE	3	1.3		0	2ks		Calm	0.73	18.5	Fair	
Madison, Wisconsin	29.41	747.0	30.50	774.7	15	— 9.4	65	N	6	2.7		0	0			0	0	Clear	
Marquette, Michigan	29.68	753.9	30.48	774.2	5	—15.0	75	W	16	7.2		0	0			0	0	Clear	
Mason, Texas	28.88	733.5	30.69	779.5	34	1.1	79	NW	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	30.20	767.1	30.56	776.2	36	2.2	70	NE	8	3.6			10s		Calm	0.58	14.7	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.69	754.1	30.49	774.4	19	— 7.2	69	NW	8	3.6	.....	0	1s	.....	Calm	0	0	Clear.	
Mobile, Alabama	30.32	770.1	30.36	771.1	46.5	8.1	80	N	17	7.6	.....	.....	10s	.....	NE	0.05	1.3	Cloudy.....	
Montgomery, Alabama	30.16	766.1	30.40	772.1	45	7.2	68	NW	14	6.3	.....	0	8ks	.....	N	0.04	1.0	Clearing.....	
Morgantown, West Virginia	29.44	747.8	30.52	775.2	24	— 4.4	74	NE	4	1.8	.....	0	0	.....	.....	0.25	6.3	Clear.....	
Mt. Washington, N. H.	23.66	601.0	30.02	762.5	7	—13.9	100	NE	39	17.4	.....	.....	10n	.....	NE	1.06	26.9	Light snow..	
Nashville, Tennessee	29.97	761.2	30.55	776.0	33	0.6	79	N	4	1.8	.....	.....	10s	.....	N	0.51	13.0	Cloudy.....	
New Haven, Connecticut	30.11	764.8	30.24	768.1	21	— 6.1	100	NE	24	10.7	.....	.....	10n	.....	NE	0.47	11.9	Light snow.	
New London, Connecticut	3 .16	766.1	30.21	767.3	26	— 3.3	88	NW	11	4.9	.....	.....	10n	.....	Calm	0.09	2.3	Heavy snow	
New Orleans, Louisiana	30.32	770.1	30.38	771.6	52	11.1	73	N	15	6.7	.....	0	1s	.....	N	0.12	3.0	Clear.	
Newport, Rhode Island	30.11	764.8	30.16	766.1	27	— 2.8	100	N	20	8.9	.....	.....	10n	.....	Calm	0.36	9.1	Heavy snow	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.07	763.8	30.26	768.6	24	— 4.4	100	NW	16	7.2	.....	.....	10n	.....	Calm	0.22	5.6	Heavy snow	
Norfolk, Virginia	30.18	766.6	30.24	768.1	35	1.7	100	NW	20	8.9	.....	.....	10n	.....	Calm	0.24	6.1	Sleeting.....	
North Platte, Nebraska	27.05	687.1	29.74	755.4	25	— 3.9	75	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.90	759.4	29.94	760.5	34.5	1.4	90	S	10	4.5	.....	.....	10s	.....	Calm	1.13	28.7	Cloudy.....	
Omaha, Nebraska	29.13	739.9	30.31	769.9	23	— 5.0	73	SE	6	2.7	.....	0	C	.....	.....	0	0	Clear.	
Oswego, New York	30.13	765.3	30.48	774.2	23	— 5.0	73	NE	10	4.5	.....	0	0	.....	.....	0.05	1.3	Clear.	
Pembina, Dakota	29.13	739.9	30.08	764.0	—15	—26.1	100	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pensacola, Florida	30.30	769.6	30.34	770.6	53	11.7	67	N	16	7.2	.....	4k	0	N	.....	0.03	0.8	Fair.....	
Philadelphia, Pennsylvania	30.10	766.8	30.25	768.3	26	— 3.3	88	N	20	8.9	.....	.....	10n	.....	Calm	0.11	2.8	Light snow	
Phœnix, Arizona	28.93	734.8	30.82	782.8	39	3.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.66	448.6	29.87	758.7	13	—10.6	44	NW	50	22.4	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.72	754.9	30.61	777.5	34	1.1	61	N	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	25	— 3.9	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.63	752.6	30.52	775.2	23	— 5.0	73	N	1	0.4	.....	0	0	.....	.....	0.19	4.8	Clear.	
Port Huron, Michigan	29.70	754.4	30.42	772.7	25	— 3.9	75	S	11	4.9	.....	2cs	0	W	.....	0	0	Clear.	
Portland, Maine	30.18	766.6	30.23	767.8	25	— 3.9	100	N	14	6.3	.....	.....	10n	.....	Calm	0.64	16.3	Light snow..	
Portland, Oregon	29.86	758.4	29.93	760.2	47	8.3	92	SW	11	4.9	.....	.....	10n	.....	.....	0.69	17.5	Light rain...	
Portsmouth, North Carolina	.....	.....	.....	.....	59	15.0	100	NE	9	4.0	.....	.....	Fog	.....	SW	0	0	Foggy.....	
Prescott, Arizona	24.86	631.4	30.22	767.6	23	— 5.0	86	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.13	765.3	30.15	765.8	64	17.8	89	N	6	2.7	.....	0	1ks	.....	NE	0	0	Clear.	
Red Bluff, California	29.95	760.7	30.38	770.4	35.6	1.9	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Rio Grand e City, Texas	30.25	768.3	30.47	773.9	57	13.9	100	NW	.....	.....	1	.....	10n	.....	Calm	0.91	23.1	Light rain...	
Rochester, New York	29.80	756.9	30.46	773.7	23	— 5.0	73	E	3	1.3	.....	.....	10s	.....	E	0.05	1.3	Cloudy.....	
Roseburg, Oregon	29.54	750 3	30.12	765.0	48.5	9.2	74	··	3	1.3	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy.....	
Sacramento, California	30.20	767.1	30.28	769.1	38	3.3	91	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.92	760.0	30.54	775.7	29	— 1.7	89	W	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Paul, Minnesota	29.47	748 5	30.41	772.4	2	—16.7	73	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah	25.70	652.8	30.04	763.0	26	— 3.3	52	NW	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
San Antonio, Texas	29.78	756.4	30.41	772.4	42	5.6	91	N	7	3.1	.....	0	0	.....	.....	Inap.	Inap	Clear.	
San Diego, California	30.04	763.0	30.11	764.8	48	8.9	49	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.78	756.4	30.51	774.9	27	— 2.8	76	SW	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Sandy Hook, New Jersey	30.20	767.1	30.23	767.8	26	— 3.3	88	N	32	14.3	.....	.....	10n	.....	Calm	0.22	5.6	Heavy snow	
San Francisco, California	30.21	767.3	30.27	768.8	44	6.7	76	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.41	594.6	29.95	760 7	22	— 5.6	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.08	764.0	30.17	766.3	60	15.6	94	W	6	2.7	.....	2ck	2s	W	W	0	0	Fair	
Shreveport, Louisiana	30.29	769.4	30.52	775.2	42	5.6	74	NE	6	2.7	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy.....	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.07	763.8	30.11	764.8	60	15.6	100	SW	11	4.9	.....	.....	10n	.....	SW	0.01	0.3	Light snow.	
Socorro, New Mexico	25.97	659.9	29.74	755.4	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.82	757.4	30.53	775.4	34	1.1	70	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	30.14	765.5	30 28	769.1	23	— 5.0	86	N	14	6.3	.....	.....	10n	.....	NE	0.23	5.8	Light snow.	
Stockton, Texas	27.25	692.1	30.25	768.3	50	10.0	32	SE	1	0.4	.....	0	0	.....	.....	0	0	Cloudy.....	
Thatcher's Island, Mass	30.19	766.8	30.25	768.3	25	— 3.9	100	N	38	17.0	.....	.....	10n	.....	N	0.41	10.4	Heavy snow	
Toledo, Ohio	29.74	755.4	30.48	774.2	26	— 3.3	75	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Tucson, Arizona	27.62	701.5	30.17	766.3	50	10.0	32	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.34	745.2	29.82	757.4	44	6.7	84	W	16	7.2	.....	0	8ks	.....	.....	0	0	Cloudy.....	
Uvalde, Texas	29.55	750.6	30.42	772.7	42	5.6	83	NE	2	0.9	.....	0	0	.....	.....	0.11	2.8	Clear.	
Vicksburg, Mississippi	30.22	767.6	30.49	774.4	43	6.1	67	N	7	3.1	.....	.....	10s	.....	N	0.12	3.0	Cloudy.....	
Virginia City, Montana	25.96	659.4	29.44	747.8	25	— 3.9	75	SW	22	9.8	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.....	
Visalia, California	29.83	757.7	30.23	767 8	30.5	— 0.8	80	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C	30.23	767.8	30.35	770.9	25	— 3.9	100	NW	12	5.4	.....	.....	10n	.....	Calm	0.44	11.2	Heavy snow	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.00	762.0	30.08	764.0	60	15.6	94	W	9	4.0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.....	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	36	2.2	61	SW	20	8.9	.....	0	1s	.....	SW	0	0	Fair.....	
Wood's Holl, Massachusetts	30.11	764.8	30.15	765.8	30	— 1.1	80	N	20	8.9	.....	.....	10n	.....	.....	Inap.	Inap.	Heavy snow	
Yankton, Dakota	28.84	732.5	30.24	768.1	17	— 8.3	67	SE	14	6.3	.....	.....	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.90	761.7	30.14	765.5	49	9.4	24	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Gordon.
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	76	24.4	72	NE	3.6	1.6	.....	0	4ks	.....	NE	0.07	1.8	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.77	756.1	29.85	758.2	74	23.3	81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
Santiago de Cuba, W. I	29.91	759.7	29 91	759.7	78	25.6	86	E	.....	.....	3	.....	8ks	.....	.....	0.290	6.35	Cloudy.....	Robert Mason.
St. Thomas, W. I	29.89	759.2	29.92	760.0	73	22.8	81	N	6	2.7	.....	0	2ks	.....	N	0	0	.....	G. O. Gellich.
York Factory, B. A	29.82	757.4	29.88	758.9	—30.0	—37.8	.....	SW	17	7.6	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,047.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-160.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3, ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings *= approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm *Estimated.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.33‡	770.4‡	.....	.....	54	12.2	87	N	15	6.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	22	— 5.6	86	NE	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing
Naval Hospital, Yokohama, Japan	30.13‡	765.3‡	.....	.....	37	2.8	49	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear
Adams, Mare I'd., Navy Yard, Cal.	30.38‡	771.6‡	.....	.....	48	8.9	85	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear
Alaska, Arica, Peru	29.90‡	759.4‡	.....	.....	69	20.6	85	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	D. clouds
Colorado, New York, N. Y.	30.22‡	767.6‡	.....	.....	25	— 3.9	100	N	20	8.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing
Constitution, Fredericksted, Santa Cruz, W. I.	29.84‡	757.9‡	.....	.....	77	25.0	91	SE	.....	.....	2	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy
Enterprise. Piraeus, Greece	30.36‡	771.1‡	.....	.....	37	2.8	81	NNE	.....	.....	6	.....	7	.....	NE	.....	.....	Smooth	.....	Raining
Franklin, Off Navy Yard, Norfolk, Va.	30.19‡	766.8‡	.....	.....	36	2.2	90	NNE	20	8.9	.....	.....	10	.....	N	0.02	0.5	.....	.....	Sleeting
Independence, Mare I'd, Navy Yard, Cal.	30.29‡	769.4‡	.....	.....	39	3.9	82	Calm	0	0	.....	.....	1	.....	E	0	0	.....	.....	Clear
Kearsarge, Key West, Fla.	30.12‡	765.0‡	.....	.....	74	23.3	90	NE	.....	.....	3	.....	8	.....	NE	.....	.....	Smooth	.....	Fair
Lackawana, N. 22° 33′, W. 157° 55′	30.09‡	764.3‡	.....	.....	74	23.3	95	ENE	.....	.....	5–6	.....	0	.....	.....	.....	.....	Mod'ate	ENE	Clear
Marion, N. 4° 32′, W. 34° 37′	29.86‡	758.4‡	.....	.....	79	26.1	86	ENE	.....	.....	2	.....	10	.....	ENE	Mod'ate	Mod'ate	Smooth	ENE	Showery
Michigan, Erie, Pa.	30.48‡	774.2‡	.....	.....	22	— 5.6	72	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear
Monocacy, Shanghai, China	30.39‡	771.9‡	.....	.....	38	3.3	91	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining
New Hampshire, Port Royal, S. C.	30.14‡	765.5‡	.....	.....	60	15.6	100	WSW	12	5.4	.....	.....	9	.....	W	0	0	.....	.....	Foggy
Nipsic, St. Thomas, W. I.	29.79‡	756.7‡	.....	.....	75	23.9	95	ESE	.....	.....	2	.....	5	.....	ENE	.....	.....	.....	.....	D. clouds
Onward, Callao, Peru	29.90‡	759.4‡	.....	.....	70	21.1	90	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Mod'ate	W	Hazy
Palos, Tientsin, China	30.41‡	772.4‡	.....	.....	30	- - 1.1	??	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear
Passaic, Washington, D. C.	30.30‡	769.6‡	.....	.....	29	— 1.7	89	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Snowing
Pensacola, Callao, Peru	29.90‡	759.4‡	.....	.....	69	20.6	95	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds
Powhatan, Navy Yard, Brooklyn, N.Y.	30.23‡	767.8‡	.....	.....	30	— 1.1	89	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....	Snowing
Quinnebaug, Villafranca, France	30.47‡	773.9‡	.....	.....	51	10.6	59	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear
Ranger, N. 21° 50′, W. 158° 17′	30.04‡	763.0‡	.....	.....	74	23.3	86	ENE	.....	.....	4	.....	2	.....	NE	.....	.....	Smooth	.....	Fair
Richmond, Hong-Kong, China	30.16‡	766.1‡	.....	.....	57	13.9	81	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Fair
Rio Bravo, Brownsville, Texas	30.49‡	774.4‡	.....	.....	56	13.3	100	NNW	6	2.7	.....	.....	10	.....	NE	0.34	8.6	.....	.....	Cloudy
Santee. Annapolis, Md	30.32‡	770.1‡	.....	.....	29	— 1.7	.....	N	.....	.....	4	.....	10	.....	.....	0.04	1.0	.....	.....	Snowing
Shenandoah, Montevideo, Uruguay	29.64‡	752.8‡	.....	.....	69	20.6	85	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy
St. Louis, League Island, Pa.	30.27‡	768.8‡	.....	.....	28	— 2.2	.....	NNE	17	7.6	.....	.....	10	.....	.....	0.02	0.5	.....	.....	Snowing
Tennessee, Hampton Roads, Va.	.....	.....	.....	.....	36	2.2	100	NNW	7	3.1	.....	.....	10	.....	.....	0.03	0.8	.....	.....	Overcast
Trenton, Villafranca, France	30.52‡	775.2‡	.....	.....	63	17.2	52	S	.....	.....	2	.....	1	.....	.....	0	0	Smooth	.....	Blue sky
Tuscarora, N. 13° 26′, W. 39° 13′	29.94‡	760.5‡	.....	.....	79	26.1	47	N	.....	.....	2	.....	0	.....	.....	.....	.....	Long	SE	Clear
Vandalia, Navy Yard, Brooklyn, N.Y.	30.25‡	768.3‡	.....	.....	26	— 3.3	??	NE	.....	.....	6	.....	10	.....	NE	.....	.....	.....	.....	Snowing
Wabash, Boston, Mass.	30.17‡	766.3‡	.....	.....	26	— 3.3	88	N	20	8.9	.....	.....	10	.....	.....	0.20	5.1	.....	.....	Snowing
Wachusett, Montevideo, Uruguay	30.24‡	768.1‡	.....	.....	69	20.6	85	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	Smooth	.....	Threatening
Wyoming, Toulon, France	30.48‡	774.2‡	.....	.....	53	11.7	43	WSW	.....	.....	0–1	.....	2	.....	WSW	.....	.....	Smooth	SW	Fair

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

UNITED STATES MARINE SERIES.

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

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

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

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks, N. 48° 40′, W. 47° 30′		29.95‡	760.7‡				NNE			5		8		NNE	Blank	Mod'ate	ENE	Fair	W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, Off Sambro Lt. H., N. S.		30.07‡	763.8‡	36	2.2		NE			5		10		NE		Smooth	NE	Drizzling	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford Philadelphia, Pa.†		30.27‡	768.8‡	20	— 1.7	89	NNW			1		10		Calm				Snowing	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Liverpool, Eng.		30.76‡	781.0‡	35	1.7		WNW			2		7		WNW	0			Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

Note—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

Note.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Rislus.
S. S. Ohio, G. Meyer, N. 48° 93′, W. 7° 04′		30.52‡	775.2‡				NE			1		8		E		Smooth	E	Cloudy	

Note.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, San Francisco, Cal.†		30.12‡	765.0‡	44	6.7	76	N			8		0						Clear	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.†		30.06‡	763.3‡	63	17.2		NE			8		n		NE	Considerable	Smooth		Showery	J. A. Thompson.
S. S. Oceanic, Metcalf																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

Note.—The originals give the wind-force by the scale 0 to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

Note.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 29° 30′, E. 156° 46′		29.65‡	753.1‡	66	18.9	64	WNW			6		8		NW	0	Very Heavy	NW	Threatening	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. S. 6° 58′, W. 167° 34′		29.87‡	758.7‡				N			2				W		Light	N	Fine	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Adele Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 37° 20′, W. 24° 35′		30.21‡	767.3‡	68	20.0		NE			2		0				Smooth	ENE	Clear	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 33° 20′, W. 68° 40′		30.46‡	773.4‡	72	22.2		S			5		2		S	0	Smooth	SE	Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON JANUARY 14, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.39	771.9	.....	.....	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.34	770.7	58.5	14.7	89	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.35	770.8	55.8	13.2	79	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.26	768.5	53.8	12.1	72	NNW	.....	.....	3	.....	5	.....	.....	0.016	0.4	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.3	769.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.34	770.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.34	770.6	40.6	4.8	74	N	.....	.....	5	.....	8	.....	.....	0.020	0.5	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Brugniaux.
Laghouat	.....	.....	30.40	772.1	46.0	7.8	53	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.35	770.9	56.8	13.8	58	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.61	752.0	30.21	767.2	18.5	— 7.5	100	S	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	741.9	30.02	762.4	28.4	— 2.	90	WSW	5.8	2.6	.....	.....	5	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.12	739.7	30.07	763.7	21.7	— 5.7	96	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.81	731.8	30.14	765.6	24.3	— 4.3	80	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.69	728.6	30.24	768.1	17.8	— 7.9	72	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	28.73	729.7	30.17	766.4	20.8	— 6.2	98	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.93	734.8	29.98	761.6	25.5	— 3.6	95	NW	.....	.....	1	.....	0	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	30.03	762.7	30.15	765.7	38.1	3.4	56	NW	.....	.....	2	.....	0	.....	.....	0.118	3.0	.....	I.R.Hydrographic Office
Szathmar	29.74	755.5	30.24	768.2	22.3	— 5.4	80	SE	.....	.....	2	.....	10	.....	.....	0.354	9.0	Snowing	Pet. Pancsics, S. J.
Szegedin	29.90	759.4	30.20	767.0	28.0	— 2.2	96	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.05	763.3	30.15	765.9	36.0	2.2	61	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.36	745.8	.....	.....	31.3	— 0.4	.....	SW	.....	.....	1	.....	.....	.....	.....	0.047	1.2	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.02	762.6	30.24	768.0	31.8	— 0.1	86	W	.....	.....	1	.....	10	.....	.....	0.012	0.30	Snow-fog.	Royal Observatory.
Furnes	30.24	768.2	30.27	768.8	34.9	1.6	87	NNE	.....	.....	1	.....	10	.....	.....	0.020	0.5	.....	M. E. de Cae.
Maeseyck	30.10	764.6	30.23	767.8	29.5	— 1.4	98	SW	.....	.....	2	.....	10	.....	.....	0.063	1.6	Foggy	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.25	768.3	30.36	771.1	36.7	2.6		NW	21	9.4			9			0.010	0.25	Overcast	W. Boswell.
Ardrossan	30.40	772.1	30.42	772.7	46	7.8		ESE			1		8					Foggy	G.Carrick.
Armagh, (Observatory)	30.22	767.6	30.46	773.7	42.0	5.6		NW	4	1.8			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.39	771.9	36.3	2.4		N	3	1.3			8					Overcast	John Hartnup.
Bolton (Sharples)	29.80	756.9	30.34	770.6	37.0	2.8		ENE	12	5.4			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.94	760 5	30.33	770.4	37.7	3.2	81	NE			4		6			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.84	757.9	29.88	758.9	73	22.8		NE			1		8					Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.23	767.8	30.33	770.4	31.0	— 0.6		NW			1		10					Overcast	H. Todd.
Cardington			30.33	770.4	31.0	— 0.6		N			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.20	767.1	30.34	770.6	28.2	— 3.1		N			1		10					Foggy	Geo. Stuart, Q. M. S'gt
Donaghadee	30.38	771.6	30.42	772.7	44	6.7		N			4		5					D. clouds	J. Mac Gowan.
Dover	30.27	768.8	30.30	769.6	31	— 0.6		N			3		10					Gloomy	J. Costello.
Falmouth (Observatory)	30.20	767.1	30.44	773.2	40.7	4.8		N			1		10					Foggy	The Staff.
Fort Napier, Natal	27.41	696.2	29.63	752.6	91.2	32.9		NW			1		3					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.44	773.2	41	5.0		Calm			0		10			0.02	0.5	Drizzling	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.19	766.8	30.40	772.1	36.7	2.6		E			3		0					Blue sky	D. G. Maclean.
Great Yarmouth	30.26	768.6	30.27	768.8	32	0.0		WNW			3		8					Snow-fog	G. T. Watson.
Greenwich (Royal Obs'y)	30.15	765.8	30.33	770.4	30.1	— 1.1		NNW			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	30.16	766.1	30.39	771.9	36.5	2.5		NW			1		10					Misty	Dr. S.E Hoskins, F.R.S.
Helston	30.54	775.7	30.66	778.7	42	5.6		NE			2		10			0	0	Very gloomy	M. P. Moyle.
Holyhead	30.33	770.4	30.40	772.1	42	5.6		NE			3		6					D. clouds	John Tilston.
Jersey	30.11	764.8	30.42	772.7	36.9	2.7		NNW			2		10					Misty	J. Fisher.
Kew (Observatory)	30.30	769.6	30.34	770.6	31.0	— 0.6		NNW	7	3.1			10					Foggy	The Met'g'l Office.
Leicester (Museum)	30.06	763.5	30.33	770.4	32.5	0.3		NW			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.10	764.5	30.17	766.3	49	9.4		N			3		1k					Blue sky	A. King.
Nairn	30.33	770.4	30.42	772.7	36	2.2		NW			1		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.04	763.0	73.5	23.1		NE			3		7					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.15	765.8	30.35	770.9	33.5	0.8		Calm			0		10k;d		NW;N	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.80	756.9	30.36	771.1	34.1	1.2		NNW			0–1		10			Blank	Blank	Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.32	770.1	30.40	772.1	38.7	3.7		NW			1		10					Overcast	John Merrifield.
*Roche's Point	30.42	772.7	30.49	774.4	38	3.3		NNE			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.24	768.1	30.41	772.4	41	5.0		NW			2		4?					Overcast ?	John C. Walker.
Sandwick Manse, Orkneys			30.39	771.9	36	2.2		NW	18	8.0			10					Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.19	766.8	30.26	768.6	29.4	— 1.4		E			1		0					Blue sky	Serg't W. H. Lyne.
Sheffield	30.08	764.0	30.37	771.4	37.3	2.9		NNE			1		10			Blan	Blank	Overcast	W. F. Cooper.
Silloth Rectory	30.36	771.1	30.39	771.9	32.2	0.1	89	E			1		3			0	0	D. clouds	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.37	771 4	35.9	2.2		NE	3	1.3			3					Misty	Rev. S. J. Perry.
Stratfield, Turgiss					32.8	0.4		NE			1		10					Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.38	771.6	30.45	773.4	42	5.6		SE			1		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.49	774.4	30.51	774.9	39.4	4.1		NE	3	1.3			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.97	761.2	30.01	762.2	70.0	21.1	53	S	16	7.2		4	6k;ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.44	646.2			87	30.6		NW				2k	4k						Robert Burnet.
Constable, Cape Colony	26.70	678.2			75	23.9		W					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.16	766	59.9	15.5		SE			Slight		Slight			0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.40	772.1	37.0	2.8		NW					6k			0.07	1.8	Fine	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.01	762.4	79.3	26.3	63	SSE	21.0	9.4		1	3		SSE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.89	759.2	29.98	761.5	60.0	15.6	62	SW	12	5.4			2			0.01	0.3	Squally	J. Youngclause.
Monach Lt-house, Hebrides			30.48	774.2	42	5.6		NNE			3	5	5	N		0	0		
North Unst, Shetland Is.			30.22	767.6				N			8		10			Blank	Blank		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palm as uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Snug Bay, Patagonia			29.11‡	739.4‡	46.5	8.1		NNE			4		10					Drizzling	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 49° 20′, W. 7° 45′			30.43	772.9	43	6.1		NNE			2		10			2		Overcast	Capt. A. J. Brown
City of Agra, S. 52° 00′ W. 151° 56′			29.60‡	751.8‡	40	4.4		SSW			8		10					Hailing	Capt. Thos. Young.
City of Cashmere, S. 54° 47′, W. 84° 10′			29.16‡	740.7‡	45.8	7.7		SSW			6		7					Drizzling	Capt. W. M. Grieve.
Barque Commewyne, N. 34° 00′, W. 52° 50′			30.12‡	765.0‡	60.5	15.8		W			2		9					Drizzling	Capt. Jas. Buchan.
S. S. Decapolis, N. 49° 03′, W. 11° 28′			30.41‡	772.4‡	51.0	10.6		ESE			5		10					Misty	Capt. T. M. Almond.
Barque Dochra, S. 24° 10′ W. 123° 50′			30.07‡	763.8‡	77	25.0		E			4		4					D. clouds	Capt. N. Spalding.
Barque Fedalma, N. 43° 55′, W. 28° 25′			29.88	758.9	62	6.7		SE			5		9			4	SSW	Misty	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony			29.96‡	761.0‡	82	27.8		SSW			3		3					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, Rum Cay, N. 23° 58′, W. 74° 56′			29.96	761.0	74	23.3		ENE			7		5			3		Showery	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 13° 36′ E. 88° 34′			29.95‡	760.7‡	79.8	26.6		NE			1		4					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 30° 20′, E. 32° 25′			29.95‡	760.7‡	59.0	15.0		N			3		0					Blue sky	Capt. C. W. Pearson
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE LAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE LAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	58.1	14.5	73	NE	.....	.....	2	2d	.....	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.66	753.4	29.71	754.6	34.0	1.1	53	N	.....	.....	4	.....	7	.....	.....	.....	.....	Snowing	
Farõe	29.87	758.0	29.89	759.1	35.8	2.1	75	NW	.....	.....	6	.....	7	.....	.....	.....	.....	.....	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.32	770.2	30.37	771.3	35.6	2.0	93	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Raining	
Thorshavn (Farõe)	30.43	772.9	30.47	773.8	32.0	0.0	67	N	.....	.....	2	.....	6	.....	.....	.....	.....	.....	
Vestervig	29.71	754.6	29.82	757.4	34.2	1.2	60	NW	.....	.....	6	.....	5	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.80	757.0	30.35	771.0	36.5	2.5	96	NW	.....	.....	1	.....	10n	.....	.....	0.024	0.6	Covered	Colignon, Director.
Amiens, Normal School	30.21	767.3	30.32	770.2	34.9	1.6	89	N	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.00	762.0	30.27	768.9	32.5	0.3	94	NW	.....	.....	3	.....	.....	.....	.....	0	0	Light fog	Klein, Commandant.
Avignon, Normal School	30.15	765.7	30.23	767.7	38.5	3.6	41	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Giraud, Director.
Bar-sur-Seine	29.69	754.0	30.28	769.0	29.1	— 1.6	95	S	.....	.....	1	.....	10	.....	.....	0.067	1.7	Covered	C. Saillard, Director.
Beauvais, Normal School	30.03	762.8	30.32	770.0	34.7	1.5	89	NNW	.....	.....	1	.....	8	.....	NNW	0.035	0.90	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.35	745.6	30.30	769.7	29.1	— 1.6	.....	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.18	766.5	30.37	771.5	33.4	0.8	85	SW	.....	.....	1	.....	10	.....	.....	0.039	0.10	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.38	746.2	30.29	769.3	28.4	— 2	96	S	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Mariot, Director.
Bourges, Normal School	29.71	754.6	30.30	769.5	32.9	0.5	96	NE	.....	.....	2	.....	10n	.....	NW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.19	766.8	30.43	773.0	43.2	6.2	82	NNW	.....	.....	1	.....	10	.....	NW	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.29	769.3	30.39	771.2	35.6	2.0	93	E	.....	.....	1	.....	10	.....	E	0.051	1.3	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.84	758.0	30.28	769.1	41.0	5	66	W	.....	.....	3	.....	5	WNW	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.95	760.7	30.29	769.3	28.8	— 1.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.79	756.6	30.39	771.8	32.5	0.3	85	N	.....	.....	1	.....	10	.....	.....	0.091	2.3	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.84	732.5	30.26	768.6	34.9	1.6	72	NW	.....	.....	1	.....	10	.....	NW	0.039	1.0	.....	Alluard, Director.
Commercy, Normal School	29.32	744.7	30.24	768.2	29.6	— 3	.....	E	.....	.....	1	.....	5	E	E	.....	.....	Snowing?	Dr. Coullet, Director.
Commune de Gréasque*	29.04	737.7	30.19	766.7	37.4	3	72	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.44	747.7	30.26	768.5	27.7	— 2.4	.....	E	.....	.....	1	.....	cn	.....	SE	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.19	766.9	30.42	772.7	38.1	3.4	83	NW	.....	.....	1	.....	10	.....	.....	0.039	1.0	Covered	Moutillot, Director.
Le Mans, Normal School	30.04	763.1	30.37	771.3	35.6	2	96	N	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.33	745.0	30.24	768.0	30.0	— 1.1	76	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	A. Baudry, Director
Lorient, Naval Observatory	30.33	770.4	30.44	773.2	41.4	5.2	94	NW	.....	.....	1	.....	.....	.....	.....	0.039	1.0	Misty	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.61	752.1	30.27	768.9	26.6	— 3.0	100	SW	.....	.....	1	.....	10	.....	.....	0	0	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.91	759.6	30.19	766.7	40.5	4.7	64	W	.....	.....	1	.....	4	.....	W	Inap.	Inap.	.....	E. Stephan, Director.
Mirecourt, Normal School	29.19	741.5	30.31	769.8	28.4	— 2	79	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	Barbier, Director.
Mont-Louis	24.95	633.7	30.26	768.7	42.4	5.8	73	W	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.08	764.0	30.11	764.8	47.5	8.6	63	NE	.....	.....	2	.....	1	W	NE	0	0	Clear.	M. Boissière, Director.
Nîmes, Normal School	30.19	766.9	30.41	772.3	48.4	9.1	71	SW	.....	.....	1	2c	.....	.....	W	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	30.00	761.9	.....	.....	32.5	0.3	96	NW	.....	.....	1	.....	10	.....	.....	0.138	3.5	.....	Marié Davy, Director.
Perpignan	30.11	764.9	30.23	767.8	52.2	11.2	10	NE	18.6	8.3	.....	.....	2	NW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.62	574.6	.....	.....	28.4	— 2.0	.....	.....	.....	.....	.....	.....	.....	.....	NNW	0	0	.....	Gen'l de Nansouty.
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.16	740.6	30.33	770.4	31.1	— 0.5	.....	N	.....	.....	3	.....	2	N	N	0	0	Slightly cld'y	M. Tallieu
Puy de Dome (Summit) Obs	25.13	638.2	.....	.....	22.8	— 5.1	100	WNW	.....	.....	4	.....	10	.....	.....	0.079	2.0	Snowy	Alluard, Director.
Rochefort, Naval Obs'y	30.41	772.5	30.45	773.3	35.2	1.8	86	S	.....	.....	2	.....	.....	S	S	0	0	Misty	Lt E. Decante, Director
Rouen, Normal School	30.23	767.7	30.31	769.9	36.5	2.5	88	NNW	.....	.....	1	.....	10	.....	.....	0.122	3.1	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.35	770.9	30.38	771.6	38.1	3.4	84	N	.....	.....	3	.....	10	N	N	0.104	2.65	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.12	765.0	30.28	769.2	32.0	0.0	100	NW	.....	.....	1	.....	10	.....	.....	0.071	1.8	Covered	E. Renou, Director.
Tarbes, Normal School	29.29	744.0	30.41	772.3	48.2	9	48	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.66	753.4	30.39	772.0	30.7	- 0.7	99	W	.....	.....	1	.....	8	NW	.....	0	0	Foggy	M. Juher Mercadier.
Tours	30.11	764.7	30.30	769.7	35.6	2.0	96	N	.....	.....	1	.....	10	.....	.....	0.063	1.6	Misty	Cousin-Marquet.
Versailles, Observatory	29.77	756.2	30.26	768.7	33.1	0.6	96	.....	.....	.....	1	.....	10	.....	.....	0.094	2.37	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.58	751.4	30.35	770 8	27.7	— 2.4	96	SW	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.86	758.4	29.89	759.1	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.26	32.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.47	773.8	30.49	774.5	35.6	2.0	86	NNE	4.0	1.8	.....	.....	0	.....	.....	0.028	0.7	Clear	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 306.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.28	743.8	30.15	765.9	24.3	— 4.3	79	NW			4		10ks			0	0		Prof. Dr. Hoh.
Berlin	29.76	755.8	29.94	760.5	29.8	— 1.2	100	SW			1		10					Snowing	Prof. Dr. Arndt.
Breslau	29.44	747.8	29.97	761.3	28.6	— 1.9	76	WNW			5		10						Royal University Obs'y.
Carlsruhe	29.77	756.1	30.23	767.7	24.8	— 4.0	94	SW			3		10						
Cassel	29.47	748.4	30.08	763.9	28.0	— 2.2	83	S			2		10	WNW		0.028	0.7	Snowing	Albert Senz.
Emden																0	0		Dr. H. Möhl.
Frankfort on the Main	29.87	758.8	30.26	768.6	27.9	— 2.3	71	WSW			2		4						Prof. Dr. Prestel.
Friedrichshafen	28.73	729.8	30.26	768.7	25.2	— 3.8	80	SW			3		10			0	0		Physical Society.
Hamburg	29.87	758.7	29.94	760.5	34.5	1.4	91	W			4		10			0.193	4.9	Hazy	Chief Telegrapher Wilhelm.
Kiel	29.85	758.3	29 87	758.7	36.3	2.4	79	W			3		6			0.047	1.2	Foggy	Dr. Reinhold Kleeman.
Königsberg (Prussia)	29.43	747.5	29.52	749.7	32.5	0.3	96	W			10		10			0.109	2.77		Prof. Dr. G. Karsten.
Köslin			29.71	754.5	33.3	0.9		W			6		4			0.008	0.2	Snowing	Prof. E. Luther.
Leipsic Observatory	29.63	752.5	30.08	763.9	27.5	— 2.5	89	WSW			3		10			0.189	4.8		H. Müller.
Magdeburg	29.76	755 9	29.99	761.7	32.0	0.0	89	W			5		9ks					Light snow	Prof. Dr. Bruhns, Privy Counselor
Memel	29 37	746.0	29.41	747.1	32.2	0.1	98	NNW			6-7		10n			0.004	0.1	Sprinkling	Dr. Assmann.
Munich (München)	28.27	718.0	30.14	765.5	22.1	— 5.5	80	W			1		3					Snowing	Reinbrecht & Issermann.
Neufahrwasser	29.60	751.9	29.62	752.3	34.3	1.3	87	WNW			4		10			0	0		Dr. C. Lang.
Neustadt (Palatinate)	29.64	752.8	30.17	766.3	27.1	— 2.7		W			2		2	W		0.047	1.2	Snowing	A. Lothes.
Posen	29.54	750.4	29.85	758.2	31.8	— 0.1	86	W			6		10			0.035	0.9		Reallehrer Dicknether
Strassburg (in Alsace)	29.70	754.3	30.29	769.4	24.8	— 4.0	95	SW			2		10			0.016	0.4		Prof. Dr. Magener.
Stuttgart	29.22	742.2	30.23	767.8	25.3	— 3.7	82	NE			1		10			0	0	Foggy	Imp. University Observatory.
Thorn	29.64	752.8	29.83	757.7	32.0	0.0	86	SW			6		10			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.60	726.5	30.18	766.6	25.9	— 3.4	87	SW	1.1	0.5		8ck		W		0.003	0.07		Dr. Cunerth.
Wustrow	29.78	756.5	29.81	757.1	35.2	1.8	96	W			5		8s			0	0	Foggy	Reallehrer J. Hopfner
																0.020	0.5		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.82	757.4	30.23	767.8	38.7	3.7		NE			4.0		5					⅛ clear	Dr. J F. J Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.93	760.1	29.98	761.4	74.0	23.3	64	WNW	8	3.6			2			0	0	D. clouds	
Deesa	29.52	749.8	30.00	762.0	78.8	26.0	40	NW	7.4	3.3			1			0	0	D. clouds	
Bombay	29.88	758.8	29.91	759.8	76.1	24.5	82	NNW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	28.06	712.6	29.89	759.2	86.3	30.2	20	ENE	5	2.2			0			0	0	Blue sky	
Belgaum	27.37	695.3	29.89	759.2	81.2	27.3	23	ENE	6	2.7			0			0	0	Blue sky	
Lahore	29.21	742.0	29.99	761.8	68.6	14.8	48	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	28.99	736.4	29.93	760.1	63.2	17.3	39	SW	2.0	0.9			0			0	0	Blue sky	
Agra	29.40	746.8	29.99	761.7	65.8	18.8	45	W	3.2	1.4			0			0	0		
Nagpur	28.90	733.9	29.95	760.7	77.2	25.1	34	Calm	1.7	0.8			0			0	0	Blue sky	
Jubbulpore	28.59	726.1	30.00	761.8	66.1	18.9	55	Calm	1.0	0.4			0			0	0	Blue sky	
Lucknow	29.58	751.2	29.97	761.2	65.3	18.5	42	NW	0.6	0.3			0			0	0	Blue sky	
Allahabad	29.67	753.6	30.00	761.9	60.6	15.9	64	Calm	1.5	0.7			0			0	0	Blue sky	
Patna	29.78	756.5	29.97	761.3	67.0	19.4	60	Calm	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.88	708.2	29.96	761.0	62.8	17.1	34	WNW	5.5	2.5			0			0	0	Blue sky	
Cuttack	29.87	758.6	29.95	760.8	73.7	23.2	63	N	0.8	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.92	759.9	29.94	760.5	69.7	20.9	67	SW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.55	750.5	29.95	760.8	64.7	18.2	73	N	2.3	1.0			3		S	0	0	D. clouds	
Chittagong	29.88	759.0	29.98	761.4	69.3	20.7	69	WSW	3.1	1.4			0			0	0	Misty	
Sibsagar	29.64	752.8	29.99	761.7	61.1	16.2	97	NNE	2.4	1.1			10	W	W	0.14	3.6	Gloomy	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.73	755.2	30.17	766.3	32.9	0.5	72	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.61	752.1	30.16	766.1	26.8	— 2.9	91	SSW	.....	.....	.....	.....	6	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.06	763.5	30.18	766.5	23.4	— 4.8	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.21	742.0	30.15	765 8	21.6	— 5.8	72	ESE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.94	760.4	30.14	765 5	40.4	8.0	67	SE	6.3	2.8	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.13	714.5	30.16	766.0	29.8	— 1 2	57	N	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.12	765.0	30.17	766.3	30.4	— 0.9	77	NW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.93	760.3	30.21	767.2	35.6	2.0	62	NE	.....	.....	2	.....	9	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.11	764.7	30.20	767.0	35.8	2.1	81	NE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.04	762.9	30.22	767 6	41.7	5.4	78	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.92	759.9	30.19	766.7	43.3	6.3	44	N	15.0	6.7	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.30	744.2	30.23	767.7	37.4	3.0	76	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.02	762.6	30.23	767.8	50.5	10.3	48	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.98	761.5	30.24	768.1	47.7	8.7	61	NNW	9.8	4.4	.....	.....	8	NNW	.....	0.024	0.6	.....	Prof. G. Ciacciatore.
Syracuse	30.13	765.4	30.18	766.5	45.9	7.7	63	NE	8.7	3.9	.....	.....	8	WSW	.....	0.276	7.0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R	29.67	753.7	30.22	767.6	44.6	7.0	51	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.24	768.1	30.25	768.3	38.2	3.4	76	NNE	2.1	0.9	.....	.....	1s	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.11	764.8	30.32	770.1	40.6	4.7	77	N	0.7	0.3	.....	.....	0	.....	.....	0	0	Clear	S. Takahayashi.
Tokei, (Yeddo) Observatory	30.01	762.2	30.08	764.0	31.8	— 0.1	75	N	5.4	2.4	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	30.12	765.0	30.18	766.6	37.1	2.8	82	E	3.8	1.7	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.6	30.35	771.0	38.8	3.8	55	SW	.....	.....	1	1k	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.49	622.0	30.35	770.9	46.9	8.3	83	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.76	755.8	30.02	762.5	64.8	18.2	96	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.10	586.7	30.34	770.7	40.1	4.5	80	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Fine	The Staff
Morelia	24.10	612.0	.....	.....	55.6	13.1	78	NE	.....	.....	3	2c	0	E	.....	0	0	Clear	M. Pena, M. D.
Pabellon (Aguascalientes)	24.01	609.9	30.13	765.2	47.1	8.4	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.53	597.7	30.03	778.1	34.9	1.6	34	Calm	0	0	.....	1c	0	E	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.26	616.1	30.39	771.9	46.9	8.3	61	E	.....	.....	1	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.07	763.7	30.08	764.0	69.8	21.0	84	N	.....	.....	4	.....	10	.....	NE	0.85	21.6	Raining	Prof. M. M. Chàzaro.
Vera-Cruz	30.08	764.1	30.11	764.8	70.7	21.5	81	Calm	0	0	.....	9k	0	.....	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.59	573.8	30.32	770.1	49.3	9.6	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Very fine	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.25	768.3	30.25	768.3	34.3	1.3	.....	NNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	.....
Helder	30.02	762.6	30.08	764.0	35.4	1.9	.....	NW	.....	.....	0	.....	.....	.....	.....	0.039	1.0	.....	.....
Hellevoetsluis	30.13	765.2	30.13	765.2	37.4	3.0	.....	NW	.....	.....	4	.....	.....	.....	.....	0.098	2.5	.....	.....
Utrecht	30.24	768.0	30.24	768.0	34.7	1.5	75	WNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
	30.14	765.5	30.19	766.7	32.0	0.0	84	SW	.....	.....	2	.....	10	.....	.....	0.024	0.6	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Lo'er 0–10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
Bergen	29.93	760.1	29.98	761.5	30.2	— 1.0	57	N	19.7	8.8			0			0	0		
Brõno	29.59	751.5	29.63	752.5	26.6	— 3.0	61	NE	18	8			3			0	0		
Christiana	29.51	749.6	29.67	753.5	27.7	— 2.4	59	SSW	0	0			10			0	0		
Tromsö	29.66	753.3	29.70	754.4	29.5	— 1.4	78	NNE	27	12			9			0.106	2.7		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Corrected Inches.	Millimeters.	Reduced Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0–10.	Up'er 0–10.	Lo'er 0–10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	OBSERVER.
Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.37	745.9	30.39	772.0	52.5	11.4	51	ENE	3.1	1.4			2			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.14	765.5	30.23	767.7	63.6	19.2	68	E	6.3	2.8			0			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	30.07	763.8	30.45	773.7	45.2	9.0	67	NE	7.4	3.3			1			0	0		The Staff.
Ponta Delgada (Azores)	29.92	760.0	29.99	761.8	61.9	16.6	80	S	40.9	18.3			10			0.020	0.5		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Corrected Inches.	Millimeters.	Reduced Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0–10.	Up'er 0–10.	Lo'er 0–10.	Upper From—	Lower From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	OBSERVER.
Bartholomew Dias																			A. G. d Silva Costa, Com'd't.
D. Fernando																			A. Sande, Com'd't.
Duque da Terceira																			J. C M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.					73.8	23 2		Calm			0		10			0		Overcast	T. Pereira, 2nd Lieut.
Sá da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea			29.85	758.5	75.2	24.0		NW			3		5		NW	1	NW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.35	770.8	57.9	14.4		NW			3		10			2		Overcast	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the *Beaufort notation*; *no distinction between upper and lower clouds*; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Corrected Inches.	Millimeters.	Reduced Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0–10.	Up'er 0–10.	Lo'er 0–10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	OBSERVER.
Archangel	29.21	741.8	29.22	742.3	17.2	— 8.2	91	E	9	4			10						Capt. Sseliwerstow.
Astrakhan	30.35	770.9	30.27	768.8	13.5	—10.3	80	SW	11	5			10ks			Blank	Blank		Capt. Wisganow.
Barnaul	29.95	760.8	30.53	775.5	— 9.9	—23.3	99	Calm	0	0			0						Meteorological Obs.
Dorpat	29.02	737.0	29.27	743.4	25.9	— 3.4	95	SW	7	3		6ck							Prof. Dr. Weihrauch.
Ekaterinburg	29.02	737.0	30.07	763.8	4.5	—15.3	89	SSE	4	2			10					Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	29.56	750.9	29.86	758.4	7.3	—13.7	93	S	9	4			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.20	741.6	29.87	758.7	24.6	— 4.1	84	WSW	16	7			10n						Physical Cabinet.
Krotkowo*	29.41	747.1	29.93	760.3	6.1	—14.4	74	SW	2	1			6						Cand. Fatjanow.
Lugan	29.79	756.7	30.01	762.3	22.3	— 5.4	85	SW	13	6			10			Blank	Blank		Meteorological Obs.
Moscow	28.97	735.8	29.[illegible]4	750.2	30.2	— 1.0	78	S	13	6			10s						Meteorological Obs.
Nertchinsk	28.17	715.4	30.91	785.1	—26.7	—32.6	80	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.10	764.5	30.17	766.3	28.8	— 1.8	82	SW	13	6			10ks						Kurdakof.
Nukuss	29.88	759.0	30.13	765.3	28.4	— 2.0	98	Calm	0	0			9ks						
Orenberg																			
Pekin (China)	30.41	772.3	30.55	775.9	22.1	— 5.5	75	Calm	0	0			0						Physical Observatory.
St. Petersburg	29.18	741.2	29.20	741.6	28.2	— 2.1	94	S	7	3			9ksn						Central Physical Obs.
Tashkend	28.60	726.4	30.24	768.2	35.2	1.8	85						4			Blank	Blank		Teich, A. M.
Tiflis	28.53	724.7	30.02	762.6	30.0	— 1.1	58	NW	31	14			0						Physical Observatory.
Vladivostock																			
Warsaw	29.35	745.6	29.80	756.8	29.8	— 1.2	82	WSW	29	13			10ks						Astronomical Obs.
Wilna	29.06	738.1	29.49	749.1	32.0	0.0	96	WSW	9	4			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.36	771.1	30.69	779.6	— 13.9	—25.5	81	N	2	1			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Corrected Inches.	Millimeters.	Reduced Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0–10.	Up'er 0–10.	Lo'er 0–10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	OBSERVER.
Barcelona, Met. Obs'y	30.17	766.3	30.28	769.1	46.8	8.2	46	WNW	3.2	1.44			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.37	771.4	30.43	772.9	49.1	9.5	71	SE	3.2	1.42		2	2	N		0	0	Cloudy	Prof. Manuel de Naverasa
Burgos, Met. Obs'y	27.39	695.7			21.9	— 5.6	97	S	0.9	0.42		0	0			0	0	Dense fog	Domingo Martin y Perez.
Madrid, Royal Observatory	28.10	713.7	30.47	773.8	36.9	2.7	85	SW	1.5	0.67		0	1			0	0	Misty	The Staff.
Murcia, Met. Obs'y	30.20	767.0	30.35	770.9	55.6	13.1	66	WSW	1.0	0.47		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.48	748.3	30.36	771.1	51.4	10.8	61	SE	0	0		4	0			0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.3	71.0	21.7	83	NNE	8.1	3.6		1ck	5kn	NNE	ENE	0.028	0.7	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.6	29.96	761.0	81.0	27.2	78	ESE	6.0	2.7						0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.29	769.3	30.39	771.9	61.5	16.4	52	ESE	7.3	3.3		0	5		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.77	756.1	29.86	758.4	77.0	25.0	83	SE	0	0		2cs	1k	SE	SE	0.305	7.75	Clear	Enrique Gadea, Chief Eng'r.

NOTE.—*The originals give the weather in general terms as published*; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.34	745.3	29.38	746.3	18.7	— 7.4	.....	N	.....	.....	4	.....	4	.....	.....	0.079	2.0	.....	
Umea	29.37	746.1	29.43	747.4	20.8	— 6.2	90	N	.....	.....	6	.....	1	.....	.....	0.276	7.0	.....	
Hernosand	29.40	746.7	29.45	748.0	22.6	— 5.2	71	NNW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	29.19	741.3	29.36	745.8	25.5	— 3.6	87	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Light snow.	
Wisby	29.38	746.3	29.44	747 8	29.8	— 1.2	80	NW	.....	.....	6	.....	3	.....	.....	0.035	0.9	.....	
Sub-Series.																			
Upsala	29.25	742.9	29.34	745.1	27.7	— 2.4	75	NNW	17.2	7.7	.....	.....	10	.....	NNW	0.008	0.20	Snowing.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.75	730.2	30.26	768.6	26.8	— 2.9	87	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.64	724.8	30.28	769.0	25.6	— 3.6	80	S	.....	.....	1	.....	9	.....	.....	0.197	5.0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.5 mm.; Thermometer, —4.3 Cent.; Relative Humidity, +8 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.30	769.7	30.2	— 1.0	100	SE	2	1.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.2	43.9	6.6	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.15	765.7	55.0	12.8	61	N	.....	.....	4	.....	0	.....	.....	6	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.51	774.9	30.52	775.2	— 1.6	—18.6	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.37	771.4	30.44	773.2	— 0.3	—17.9	91	W	7	3.1	.....	0	0	.....	.....	0.04	1.0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.22	767.6	30.27	768.8	7.0	—13.9	100	N	14	6.3	.....	0	0	.....	.....	0.65	16.5	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	30.16	766.1	30.37	771.4	11.0	—11.7	91	E	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.24	768.1	30.43	772.9	— 2.0	—18.9	.....	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	30.51	774.9	30.53	775.4	—13.5	—25.3	73	SE	10.0	4.5	.....	0	0	.....	.....	0	0	Clear.	J. McWilliams.
Fredericton, N. B	30.43	772.9	30.50	774.7	— 5.9	—21.1	100	NW	12	5.4	.....	0	0	.....	.....	0.09	2.3	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.20	744.6	30.26	768.6	—20.0	—28.9	100	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.01	736.8	30.18	766.6	24	— 4.4	.....	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	29.16	740.7	30.30	769.6	7.0	—13.9	81	NW	16	7.2	.....	0	0	.....	.....	0.45	11.4	Clear.	A. Allison.
Hamilton, Ontario	29.87	758.7	30.26	768.6	27.5	— 2.5	91	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.01	762.2	30.36	771.1	29.0	— 1.2	81	S	14	6.3	.....	5cs	0	SW	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.98	761.5	30.02	762.5	14.2	— 9.9	89	NE	.....	.....	8	7k	0	NE	.....	0.73	18.5	Cloudy.....	C. H. Rigby.
Montreal, Quebec	30.21	767.3	30.44	773.2	3.2	—16 0	87	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.62	752.3	29.66	753.4	17.0	— 8.3	95	S	.....	.....	4	.....	10	.....	.....	0.10	2.5	Cloudy.....	J. R. Nelson.
Norwood	29.63	750.0	30.28	769.1	20.3	— 6.5	100	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.37	746.0	30.11	764.8	22.0	— 5.6	86	E	20	8.9	.....	0	2ks	.....	SW	0.10	2.5	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.49	749.0	30.31	769.9	17.1	— 8.3	53	S	.....	.....	1	0	3s	.....	.....	0	0	Fair...	J. F. Jeffers, M. A.
Port Dover, Ontario	29.57	751.1	30.30	769.6	30.0	— 1.1	88	SW	19	8.5	.....	0	0	.....	.....	0.07	1.8	Clear...	H. Morgan.
Port Stanley, Ontario	29.59	751.6	30.27	768.8	30.2	— 1.0	88	SW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	M. Payne.
Quebec, Quebec	30.19	766.8	30.56	776.2	6.5	—14.2	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.27	768.8	30.40	772.7	1	—17.2	71	N	5	2.2	.....	0	0	.....	.....	0.31	7.9	Clear.....	G. Murdock, C. E.
Saugeen, Ontario	29.33	745.0	30.08	764.0	26.0	— 3.3	80	S	24	10.7	.....	0	0	.....	.....	0.30	7.6	Clear.	K. Stewart.
Stratford, Ontario	28.83	732.3	30 19	766.8	22.8	— 5.1	88	SW	7.0	3.1	.....	0	0	.....	.....	0.10	2.5	Clear.	C. J. MacGregor, M. A
Sydney, C. B	29.97	761.2	30.01	762.3	13.4	—10.3	83	NW	9	4.0	.....	9ck	1s	Calm	.....	0.89	22.6	Clearing....	T. C. Hill, C. E.
Toronto, Ontario	29.86	758.4	30.27	768.8	30.1	— 1.1	68	SW	20	8.9	.....	2ck	3s	W	.....	Inap.	Inap.	Fair.....	Magnetic Observatory
Windsor, N. S	30.29	769.4	30.39	771.9	7.0	—13.9	100	NW	14	6.3	.....	0	0	.....	.....	0.28	7.1	Clear.	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.07	738.4	30.20	767.1	25.6	— 3.6	89	SE	21	9.4	.....	0	0	.....	.....	0.01	0.3	Clear.	Professor Wolverton.
Yarmouth, N. S	30.35	770.9	30.42	772.7	12.1	—11.1	84	NE	6	2.7	.....	2k	0	N	.....	0.05	1.3	Fair.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.79	756.7	30.05	763.3	32	0.0	.....	S	.....	.....	.....	.....	10	.....	.....	.....	.....	Raining.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.917	759.77	34.8	1.6	.....	W	.....	.....	2	.....	n	.....	.....	1.10	27.9	Heavy rain..	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,116 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.31	769.9	30.57	776.5	11	—11.7	80	S	3	1.3		0	0			0	0	Clear.	
Alpena, Michigan	29.25	742.9	29.92	760.0	28	— 2.2	77	SW	20	8.9		0	0			0	0	Clear.	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.21	741.9	30.44	773.2	30	— 1.1	60	E	19	8.5		0	0			0	0	Clear.	
Atlantic City, New Jersey	30.56	776.2	30.57	776.5	21	— 6.1	71	N	5	2.2		2c	0	NW		0	0	Clear.	
Augusta, Georgia	30.30	769.6	30.52	775.2	33	0.6	61	NE	6	2.7		0	0			0	0	Clear	
Baltimore, Maryland	30.53	775.4	30.59	777.0	20	— 6.7	70	N	3	1.3		0	0			0.02	0.5	Clear.	
Barnegat, New Jersey	30.53	775.4	30.56	776.2	20	— 6.7	70	N	9	4.0		2c	2s	W	W	0.14	3.6	Fair	
Bismarck, Dakota	28.32	729.3	30.18	766.6	— 3	—19.4	100	NW	18	8.0		0	0			0	0	Clear.	
Boerne, Texas	28.62	726.9	29.96	761.0	47	8.3	92	SW	6	2.7			10s		SW	0	0	Cloudy	
Boise City, Idaho	27.24	691.9	30.20	767.1	36	2.2	80	SE	4	1.8		0	5s		W	0	0	Fair	
Boston, Massachusetts	30.41	772.4	30.59	777.0	15	—10.6	44	Calm	0	0		0	2s		Calm	0.04	1.0	Fair	
Brackettville, Texas	28.90	734.0	29.97	761 2	51	10.6	93	E	6	2.7			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.04	737.6	30.17	766.3	— 3	—19.4	100	NW	22	9.8		0	0			0	0	Clear.	
Brownsville, Texas	30.08	764.0	30.13	765.3	60	15.6	94	Calm	0	0			Fog		Calm	0.01	0.3	Foggy	
Buffalo, New York	29.57	751.1	30.31	769.9	29	— 1.7	78	S	11	4.9		2c	0	W		0.01	0.3	Clear	
Burkes, Arizona																			
Burlington, Vermont	30.15	765.8	30.47	773 9	15	— 9.4	65	S	9	4.0			10s		W	0	0	Cloudy	
Cairo, Illinois	29.85	758.2	30.26	768.6	39	— 3.9	64	S	9	4.0		1c	0	W		0	0	Clear	
Campo, California	27.49	698.2	30.06	763.5	25	— 3.9	87	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.43	772.9	30.44	773.2	45	7.2	61	NE	24	10.7		Haze	2s		NE	0.18	4.6	Hazy	
Cape Henry, Virginia	30.50	774 7	30.52	775.2	35	1.7	80	N	14	6.3		0	0			0.49	12. 4	Clear.	
Cape Lookout, N. Carolina	30.40	772.1	30.42	772.7	38	3.3	91	N			4	0	2ks		N	0.90	22.9	F lr	
Cape May, New Jersey	30.56	776.2	30.59	777.0	20	— 6.7	56	N	7	3.1		0	0			0.08	2.0	Clear.	
Castroville, Texas	29.31	744.5	30.02	762.5	52	11.1	86	W	2	0.9			10s		Calm	0	0	Threatening	
Cedar Keys, Florida	30.22	767.6	30.24	768.1	52	11.1	79	NE	20	8.9		0	0			0	0	Clear.	
Charleston, South Carolina	30.35	770.9	30.41	772.4	34	1.1	79	N	13	5.8		0	0			0	0	Clear.	
Charlotte, North Carolina	29.62	752.3	30.51	774.9	29	— 1.7	54	NE	5	2.2		0	Sm'e		Calm	0	0	Clear.	
Chattanooga, Tennessee	29.54	750.3	30.39	771.9	36	2.2	61	S	10	4.5		0	0			0	0	Clear.	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	36	2.2	53	NW	11	4.9		0	0			0	0	Clear.	
Chicago, Illinois	29.30	744.2	30.01	762.2	36	2.2	80	SW	12	5.4		0	0			0	0	Clear	
Cincinnati, Ohio	29.62	752.3	30.22	770.1	28	— 2.2	77	SE	3	1.3		0	0			0	0	Clear.	
Cleveland, Ohio	29.51	749.5	30.30	769.6	22	— 5.6	72	SE	11	4.9		0	0			0	0	Clear.	
Coleman City, Texas	28.18	715.8	29.90	759.4	39	3.9	82	Calm	0	0		0	0			0	0	Clear.	
Columbus, Ohio	29.40	746.7	30.31	769.9	20	— 6.7	85	SE	4	1.8			Fog		Calm	0	0	Foggy	
Concho, Texas	28.08	713.2	29.75	755.6	43	6.1	75	SW			2	0	0			0	0	Clear.	
Corsicana, Texas	29.64	752.8	30.13	765.3	44	6.7	76	S	8	3.6		0	0			0	0	Clear.	
Davenport, Iowa	29.31	744.5	29.97	761.2	33	0.6	70	SW	10	4.5		0	0			0	0	Clear.	
Dayton, Washington Ty					38	3.3	80	SW			2		10n		Calm	0.02	0.5	Light rain	
Deadwood, Dakota	25.36	644.1			22	— 5.6	72	Calm	0	0			10s		Calm	0	0	Cloudy	
Decatur, Texas																			
Denison, Texas	29.24	742.7	30.05	763.3	41	5.0	82	SE	7	3.1		5ck	0	SW		0	0	Fair	
Denver, Colorado	24.75	628.6	29.97	761.2	42	5.6	27	SW	8	3.6		0	0			0	0	Clear.	
Des Moines, Iowa	29.02	737.1	29.93	760.2	34	1.1	70	SW	1	0.4		0	0			0	0	Clear.	
Detroit, Michigan	29.48	748.8	30.19	766.8	27	— 2.8	88	S	10	4.5		0	0			0	0	Clear.	
Dodge City, Kansas	27.33	694.2	29.68	753.9	32	0.0	40	N	7	3.1		0	0			0	0	Clear.	
Dubuque, Iowa	29.23	742.4	29.95	760.7	32	0.0	59	S	1	0.4		10c	0	SW		0	0	Cloudy	
Duluth, Minnesota	28.91	734.3	29.60	751.8	26	— 3.3	75	NW	24	10.7		0	0			0	0	Clear.	
Eagle Pass, Texas	29.32	744.7	30.06	763.5	54	12.2	74	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	30.40	772.1	30.48	774.2	3	—16.1	59	NW	17	7.6		0	0			0.40	10.2	Clear.	
Edinburg, Texas					58	14.4	94	Calm			0		10s		Calm	0.33	8.4	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.54	750.3	30.30	769.6	25	— 3.9	75	S	14	6.3		0	0			0	0	Clear.	
Escanaba, Michigan	29.05	737.9	29.71	754.6	29	— 1.7	66	SW	25	11.2		5c	0	N		Inap.	Inap.	Fair	
Florence, Arizona	28.56	725.4	30.16	766.1	35	1.7	80	NE	1	0.4		0	0			0	0	Clear.	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.10	713.7	30.18	766.6	— 5	—20.6	81	Calm	0	0		0	0			0	0	Clear.	
Fort Custer, Montana	26.87	682.5			18	— 7.8	68	Calm	0	0		0	0			0	0	Clear.	
Fort Davis, Texas	25.18	639.6	30.14	765.5	51	10.6	72	SW	7	3.1		0	0			0	0	Clear.	
Fort Gibson, Indian Ter	29.48	748.8	30.03	762.7	39	3.9	73	SE	10	4.5		0	0			0	0	Clear.	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	37	2.8	38	SE	5	2.2		0	0			0	0	Clear.	
Fort Griffin, Texas	28.68	728.5	29.96	761.0	47	8.3	62	S	2	0.9		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.41	696.2			1	—17.2	71	N	2	0.9		0	0			0	0	Clear.	
Fort McKavett, Texas	27.64	702.0	29.56	750.8	47	8.3	77	S	16	7.2			10s		S	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.69	728.7	29.83	757.7	35	1.7	70	S	9	4.0		0	0			0	0	Clear.	
Fort Stevenson, Dakota	28.24	717.3			— 5	—20.6	82	NW	30	13.4		0	0			0	0	Clear.	
Fort Verde, Arizona					24	— 4.4	74	NW			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.21	716.5	29.77	756.1	53	11.7	80	SW	8	3.6			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.13	765.3	30.18	766.6	57	13.9	75	SE	4	1.8		0	0			0	0	Clear.	
Graham, Texas	28.89	733.8	29.97	761.2	40	4.4	73	S	2	0.9		5cs	0	W		0	0	Fair	
Grand Haven, Michigan	29.38	746.2	30.04	763.0	36	2.2	71	S	8	3.6		0	0			0	0	Clear.	
Helena, Montana																			
Henrietta, Texas	28.97	735.8	29.93	760.2	40	4.4	82	SE	6	2.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.35	745.5	30.18	766.6	27	— 2.8	76	SE	8	3.6		0	0			0	0	Clear.	
Indianola, Texas	30.13	765 8	30.16	766.1	60	15.6	88	SE	4	1.8		0	8s		SE	0	0	Fair	
Jacksboro, Texas	28.75	730.2	29.90	759.4	45	7.2	61	N	12	5.4		0	0			0	0	Clear.	
Jacksonville, Florida	30.28	769.1	30.31	769.9	50	10.0	79	N	12	5.4			10s		NW	0	0	Cloudy	
Keokuk, Iowa	29.31	744.5	29.95	760.7	36	2.2	71	SW	13	5.8		2cs	0			0	0	Clear.	
Key West, Florida	30.04	763.0	30.07	763.8	70	21.1	85	NE	16	7.2		0	0			0	0	Clear.	
Kittyhawk, North Carolina	30.47	773.9	30.50	774.7	43	6.1	59	NE	20	8.9		5k	0	NE		0.56	14.2	Fair	
Knoxville, Tennessee	29.34	745.2	30.41	772.4	32	0.0	79	Calm	0	0			Fog		Calm	0	0	Foggy	
La Crosse, Wisconsin	29.08	738.6	29.83	757.7	38	3.3	63	S	6	2.7		0	0			0	0	Clear	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	29	— 1.7	78	Calm	0	0		0	1s		Calm	0	0	Clear.	
Laredo, Texas	29.90	759.4	30.25	768.3	58	14.4	88	SE	4	1.8			10ks		SE	0	0	Cloudy	
Leavenworth, Kansas	29.08	738.6	29.94	760.5	36	2.2	71	S	4	1.8		0	0			0	0	Clear.	
Lewiston, Idaho																			
Little Rock, Arkansas	29.87	758.7	30.25	768.3	37	2.8	81	S	1	0.4		0	0			0	0	Clear	
Los Angeles, California	29.69	754.1	30.04	763.0	43.0	6.1	67	NE	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.66	753.4	30.25	768.3	30	— 1.1	79	S	4	1.8		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.84	757.9	30.58	776.7	30	— 1.1		NE	1	0.4		0	0			0	0	Clear	
Madison, Wisconsin	28.88	733.5	29.88	758.9	34	1.1	70	S	17	7.6		1c	0	Calm		0	0	Clear	
Marquette, Michigan	28.83	732.3	29.53	750.0	33	0.6	70	SW	28	12.5		0	0			0.04	1.0	Clear	
Mason, Texas	28.39	721.1	30.16	766.1	50	10.0	79	SE	8	3.6		2cs	0	SW		0	0	Fair	
Memphis, Tennessee	29.90	759.4	30.26	768.6	36	2.2	70	SE	4	1.8		0	Sm'e		Calm	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.60	751.8	29.91	759.7	32	0.0	79	SW	20	8.9		0	1s		Calm	0	0	Clear	
Mobile, Alabama	30.23	767.8	30.28	769.1	39	3.9	86	N	2	0.9		Haze	Sm'e			0	0	Smoky	
Montgomery, Alabama	30.12	765.0	30.37	771.4	41	5.0	69	E	10	4.5		0	0			0	0	Clear	
Morgantown, West Virginia	29.34	745.2	30.44	773.2	13	—10.6	81	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.77	603.8	30.13	765.3	1	—17.2	56	NW	30	13.4		8k	0	Calm		0.10	2.5	Cloudy	
Nashville, Tennessee	29.75	755.6	30 32	770.1	33	0.6	79	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	30.46	773.7	30.59	777.0	16	— 8.9	83	N	3	1.3		2c	2s	N	N	0.07	1.8	Fair	
New London, Connecticut	30.53	775.4	30.59	777.0	16	— 8.9	65	N	5	2.2		1cs	0	W		0.14	3.6	Clear	
New Orleans, Louisiana	30.18	766.6	30.24	768.1	50	10.0	71	NE	8	3.6		0	Sm'e		Calm	0	0	Clear	
Newport, Rhode Island	30.52	775.2	30.58	776.7	19	— 7.2	69	N	5	2.2		0	0			0.42	10.7	Clear	
New River, North Carolina																			
New York, New York	30.39	771.9	30.59	777.0	19	— 7.2	69	Calm	0	0		2cs	Haze	Calm	Calm	0.14	3.6	Hazy	
Norfolk, Virginia	30.48	774.2	30.54	775.7	36	2.2	80	N	7	3.1			10s;fg		Calm	0.02	0.5	Cloudy	
North Platte, Nebraska	27.12	688.8	29.75	755.6	36	2.2	61	NW	13	5.8		0	5s		Calm	0	0	Fair	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	39.0	3.9	91	S	10	4.5			10n		Calm	0.22	5.6	Light rain	
Omaha, Nebraska	28.79	731.3	29.92	760.0	32	0.0	79	N	8	3.6		0	0			0	0	Clear	
Oswego, New York	30.07	763.8	30.41	772.4	25	— 3.9	75	S	9	4.0		Haze	0			0	0	Clear	
Pembina, Dakota	29.04	737.6	29.98	761.5	—11	—23.9	100	W	18	8.0		0	0			0	0	Clear	
Pensacola, Florida	30.27	768.8	30.30	769.6	48	8.9	78	NE	10	4.5		0	2s		NE	0	0	Fair	
Philadelphia, Pennsylvania	30.53	775.4	30.59	777.0	20	— 6.7	70	NE	6	2.7		2cs	0	Calm		0.04	1.0	Fair	
Phœnix, Arizona	28.88	733.5	30.75	781.0	40	4.4	65	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.60	447.0	29.81	757.2	4	—15.6	48	NW	36	16.1		2cs	0	Calm		0	0	Clear	
Pilot Point, Texas	29.25	742.9	30.09	764.3	46	7.8	62	SW	14	6.3		5k	2s	S	SW	0	0	Fair	
Ploche, Nevada					29	— 1.7	67	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.52	749.8	30.40	772.1	22	— 5.6	72	E	4	1.8		0	0			0	0	Clear	
Port Huron, Michigan	29.45	748.0	30.15	765.8	27	— 2.8	76	S	20	8.9		0	0			Inap.	Inap.	Clear	
Portland, Maine	30.48	774.2	30.54	775.7	16	— 8.9	66	N	4	1.8		0	0			0.20	5.1	Clear	
Portland, Oregon	30.07	763.8	30.15	765.8	46	7.8	84	S	17	7.6			10n			0.01	0.3	Light rain	
Portsmouth, North Carolina																0.15	3.8		
Prescott, Arizona	24.80	629.9	30.16	766.1	27	— 2.8	76	NE			1	0	0			0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	62	16.7	83	N	12	5.4		8ck	0	NE		0	0	Fair	
Red Bluff, California	29.90	759.4	30.27	768.8	38	3.3	86	NW	9	4.0		0	0			0	0	Clear	
Rio Grande City, Texas	29.03	760.2	30.15	765.8	67	13.9	87	SE			1		10s		Calm	0 18	4.6	Cloudy	
Rochester, New York	29.69	754.1	30.35	770.9	27	— 2.8	64	SW	8	3.6		0	1s		Calm	Inap.	Inap.	Clear	
Roseburg, Oregon	29.73	755.1	30.32	770.1	43.5	6.4	87	SW	3	1.3			10s		Calm	0.02	0.5	Cloudy	
Sacramento, California	30.16	766.1	30.24	768.1	35	1.7	90	NE	2	0.9		0	0			0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.09	764.3	34	1.1	70	S	8	3.6		2c	0	S		0	0	Fair	
St. Paul, Minnesota	28.97	735.8	29.82	757.4	28	— 2.2	77	W	16	7.2		0	0			0	0	Clear	
Salt Lake City, Utah	25.79	655.0	30.12	765.0	26	— 3.3	52	SE	4	1.8		0	2s		Calm	Inap.	Inap.	Clear	
San Antonio, Texas	29.43	747.5	30.03	762.7	50	10.0	100	Calm	0	0			10s		Calm	0	0	Cloudy	
San Diego, California	29.99	761.7	30.06	763.5	43	6.1	75	NE	2	0.9		0	0			0	0	Clear	
Sandusky, Ohio	29.54	750.3	30.26	768.6	27	— 2.8	76	S	7	3.1		0	2s;hz		Calm	0	0	Fair	
Sandy Hook, New Jersey	30.55	776.0	30.58	776.7	23	— 5.0	73	[illegible]	4	1.8		5cs	0	NW		0.08	2.0	Fair	
San Francisco, California	30.19	766.8	30.26	768.6	45	7.2	92	Calm	0	0			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.80	591.8	29.84	757.9	19	— 7.2	54	NE	11	4.9		0	0			0	0	Clear	
Savannah, Georgia	30.32	770.1	30.42	772.7	36	2.2	71	NE	9	4.0		0	0			0	0	Clear	
Shreveport, Louisiana	29.95	760.7	30.18	766.6	40	4.4	82	S	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico																			
Smithville, North Carolina	30.41	772.4	30 45	773.4	28	— 2.2	88	N	12	5.4		1k	0	Calm		0.12	3.0	Clear	
Socorro, New Mexico	25.46	646.7	30.53	775.4	26	— 3.3	52	Calm	0	0		0	0			0	0	Clear	
Springfield, Illinois	29.39	746.5	30.08	764.0	35	1.7	70	S	16	7.2		0	0			0	0	Clear	
Springfield, Massachusetts	30.45	773.4	30.60	777.2	11	—11.7	60	N	2	0.9		0	0			0.03	0.8	Clear	
Stockton, Texas	27.15	689.6	30.15	765.8	50	10.0	92	SE	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass.	30.52	775.2	30.58	776.7	22	— 5.6	72	N	10	4.5		0	Haze			0.20	5.1	Clear	
Toledo, Ohio	29.47	748.5	30.19	766.8	28	— 2.2	66	SE	16	7.2		0	0			0	0	Clear	
Tucson, Arizona	27.59	700.8	30.14	765.5	41	5.0	57	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.74	755.4	30.25	768.3	49	4.4	91	W	2	0.9			10s		SW	0	0	Cloudy	
Uvalde, Texas	29.23	742.4	30.05	763.3	52	11.1	86	E	2	0.9			10s		E	0	0	Cloudy	
Vicksburg, Mississippi	29.99	761.7	30.26	768.6	37	2.8	87	SE	6	2.7		0	0			0	0	Clear	
Virginia City, Montana	24.18	614.2	29.66	753.4	25	— 3.9	64	SW	4	1.8		0	0			0	0	Clear	
Visalia, California	29.88	758.9	30.23	767.8	52.5	0.3	94	SE	2	0.9		0	Fog		Calm	0	0	Clear	
Washington, D. C.	30.46	773.7	30.59	777 0	16	— 8.9	90	Calm	0	0			Fog		Calm	0.02	0.5	Foggy	
Wickenburg, Arizona					31	— 0.6	79	NW			1	0	0			0	0	Clear	
Wilmington, North Carolina	30.38	771.6	30.46	773.7	30	— 1.1	67	N	9	4.0		0	0			0.13	3.3	Clear	
Winnemucca, Nevada	25.80	655.3	30.16	766.1	28	— 2.2	77	SW	10	4.5		0	0			0	0	Clear	
Wood's Holl, Massachusetts	30.52	775.2	30.56	776.2	21	— 6.1	85	N	8	3.6		0	0			0.13	3.3	Clear	
Yankton, Dakota	28.77	730.7	30.12	765.0	28	— 2.2	65	NW	22	9.9		0	0			0	0	Clear	
Yuma, Arizona	29.93	760.2	30.08	764.0	50	10.0	45	NW	9	4.0		0	0			0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	29.90	761.0	30.01	762.2	72	22.2	81	NE	2.4	1.1		0	8ks		E	0.05	1.3	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.04	763.0	30.05	763.3	76	24.4	83	Calm	0	0		2cs	8n			0	0	Hazy	James Gall.
Navassa, W. I.	29 73	755.1	29.81	757.2	76	24.4	82												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	77	25.0	91	SE			2		10n			2.070	52.58	Raining	C. J. Hering.
Santiago de Cuba, W. I.	29.82	757.4	29.85	758.2	74	23.3	81	N	6	2.7		0	4s		N	0	0		Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.83	757.7	29.88	758.9	—39.0	—39.4		S	18	8.0			10n		S			Snowing	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,700 (?) ft., or 533 (?) m.; Dendwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.5 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm *Estimated.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.23‡	767.8‡	.....	.....	54	12.2	87	NE	16	7.2	.....	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.35‡	770.9‡	.....	.....	9	—12.6	78	W	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	30.10‡	764.6‡	.....	.....	34	1.1	65	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Mare I'd., Navy Yard, Cal.	30.36‡	771.1‡	.....	.....	50	10 0	??	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Alaska, Arica, Peru..... *	29.88‡	758.9‡	.....	.....	70	21.1	80	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	D. clouds.....	
Colorado, New York, N. Y.....	30.55‡	776.0‡	.....	.....	19	— 7.2	100	Calm	0	0	.....	.....	8	.....	Calm	0.01	0.3	.....	.....	Foggy.....	
Constitution, Fredericksteed, Santa Cruz, W. I.	29.87‡	758.7‡	.....	.....	73	22.8	95	ENE	.....	.....	2	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Enterprise, Piræus, Greece	30.26‡	768.6‡	.....	.....	41	5.0	65	NNW	.....	.....	3	.....	7	.....	NNW	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.55‡	776.0‡	.....	.....	36	2.2	71	N	6.2	2.8	.....	.....	0	.....	.....	0.25	0.3	.....	.....	Clear.....	
Independence, Mare I'd, Navy Yard, Cal.	30.24‡	768.1‡	.....	.....	42	5.6	83	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy.....	
Kearsarge, Key West, Fla.....	30.09‡	764.3‡	.....	.....	73	22.8	85	NE	.....	.....	2	.....	5	.....	NE	.....	.....	Smooth	.....	Fair.....	
Lackawana, N. 24° 22', W. 157° 05'..†	30.17‡	766.3‡	.....	.....	72	22.2	95	ENE	.....	.....	3–4	.....	0	.....	.....	.....	.....	Mod'ate	ENE	Clear.....	
Marion, N. 3° 20', W. 34° 43'.....	29.86‡	758.4‡	.....	.....	81	27.2	83	E	.....	.....	3	.....	2	.....	E	0	0	Smooth	.....	Clear.....	
Michigan, Erie, Pa.....	30.25‡	768.3‡	.....	.....	26	— 3.3	75	SE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Shanghai, China..	30.49‡	774.4‡	.....	.....	37	2.8	81	NNE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	30.41‡	772.4‡	.....	.....	39	3.9	73	NNE	20	8.9	.....	.....	9?	.....	NNE	0	0	.....	.....	Clear?.....	
Nipsic, St. Thomas, W. I.....	29.92‡	760.0‡	.....	.....	77	25.0	86	ENE	.....	.....	2	.....	8	.....	ESE	.....	.....	.....	.....	D. clouds....	
Onward, Callao, Peru ..... †.	29.89‡	759.2‡	.....	.....	67	19.4	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate	W	Foggy.....	
Palos, Tientsin, China.....	30.49‡	774.4‡	.....	.....	32	0.0	100	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	30.54‡	775.7‡	.....	.....	14	—10.0	82	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Pensacola, Callao, Peru	29.87‡	758.7‡	.....	.....	67	19.4	100	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.56‡	776.2‡	.....	.....	24	— 4.4	74	NNW	.....	.....	2	.....	8	.....	.....	0	0	.....	.....	Fair.....	
Quinnebaug, Villafranca, France.....	30.14‡	765.5‡	.....	.....	48	8.9	63	ESE	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Fair.....	
Ranger, N. 24° 05', W. 156° 30'.....	30.14‡	765.5‡	.....	.....	73	22.8	81	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Fair.....	
Richmond, Hong-Kong, China.....	30.19‡	766.8‡	.....	.....	57	13.9	87	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †	30.32‡	770.1‡	.....	.....	52	11.1	100	NNW	2	0.9	.....	.....	5	.....	Calm	0.02	0.5	.....	.....	Fair.....	
Santee, Annapolis, Md	30.58‡	776.7‡	.....	.....	22	— 5.6	.....	NNE	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....	.....	
Shenandoah, Montevideo, Uruguay...	29.77‡	756.1‡	.....	.....	68	20.0	51	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
St. Louis, League Island, Pa.....	30.53‡	775.4‡	.....	.....	18	— 7.8	.....	ENE	4	1.8	.....	.....	5	.....	SE	0	0	.....	.....	Fair.....	
Tennessee, Hampton Roads, Va.....	30.54‡	775.7‡	.....	.....	36	2.2	80	NNW	5	2.2	.....	.....	0	.....	.....	0.02	0.5	.....	.....	Blue sky.....	
Trenton, Villafranca, France.....	30.15‡	765.8‡	.....	.....	56	13.3	63	SE	.....	.....	1–2	.....	4	.....	.....	0	0	Smooth	.....	D. clouds.....	
Tuscarora, N. 13° 13', W. 88° 58'.....	29.91‡	759.7‡	.....	.....	78	25.6	54	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.58‡	776.7‡	.....	.....	20	— 6.7	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	30.51‡	774.9‡	.....	.....	11	—11.7	80	NW	6	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Wachusett, Montevideo, Uruguay.†	30.34‡	770.6‡	.....	.....	67	19.4	55	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wyoming, Toulon, France.....	30.14‡	765.5‡	.....	.....	47	8.3	62	W	.....	.....	2	.....	5	.....	W	.....	.....	Smooth	SW	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, Off St. Johns, N. F.		29.71‡	754.6‡				S			2				S		Strong	NE	Snowing	W. E. Jago.
S. S. Circassian.																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 44° 32', W. 62° 45'.		30 24‡	768.1‡	7	—13.9		NNW			7		1		NNW		Smooth	N	Clear	John France.
S. S. Moravian, J. Graham.																			
S. S. Peruvian.																			A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																			
S. S. Sarmatian, A. D. Air.																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford Philadelphia, Pa. †		30.62‡	775 2‡	20	— 6.7	85	NNE			1		1		NW				Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent St. George's Channel, Eng.		30.62‡	777.7‡	30	— 1.1		SW			1		6		NW	0	Light	SW	Cloudy	Wm. Shackford.
S. S. Ohio, Henry Morrison.																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger.																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle.																			
S. S. Braunschweig, C. Undütsch.																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer, N. 45° 57', W. 11° 44'.		30.41‡	772.4‡				S			4		10		S		Long	SW	Heavy rain.	
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, San Francisco, Cal. †		30.09‡	764.8‡	45	7.2	92	Calm			0		Fog						Foggy	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China. †		30.06‡	763.5‡	63	17.2		NE			3		ks				Slight	Smooth	Showery	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan.																			J. M. Lachlan.
S. S. Oregon.																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander.																			
S. S. Idaho, E. Alexander.																			
S. S. Orizaba.																			
S. S. State of California, G. Debney.																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio, J. Maury																			
N. 30° 02′, E. 152° 07′ †‡		29.80‡	756.9‡	65	18.3	58	WNW			7		5c		NW	0	Very heavy	NW	Threatening	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Z alandia, R. C. Ghest.																			
S. 1° 42′, W. 165° 40′		29 93‡	760.2‡				N			3				E		Light	N	Fine	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			
S. S. Celtic, B. Gleadell																			J. Jones.
S. S. Republic, P. J. Irving																			
																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark, Carrie Heckle, B. F. Woodbury.																			
S. 38° 03′, W. 21° 52′ *§		30.22‡	767.6‡	65	18.3		NE			3		10?				[illegible]		Fair?	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
N. 32° 00′, W. 67° 40′ †§		30.25‡	768.3‡	70	21.1		NNE			5		10		NE		Mod'ate	SE	Cloudy	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

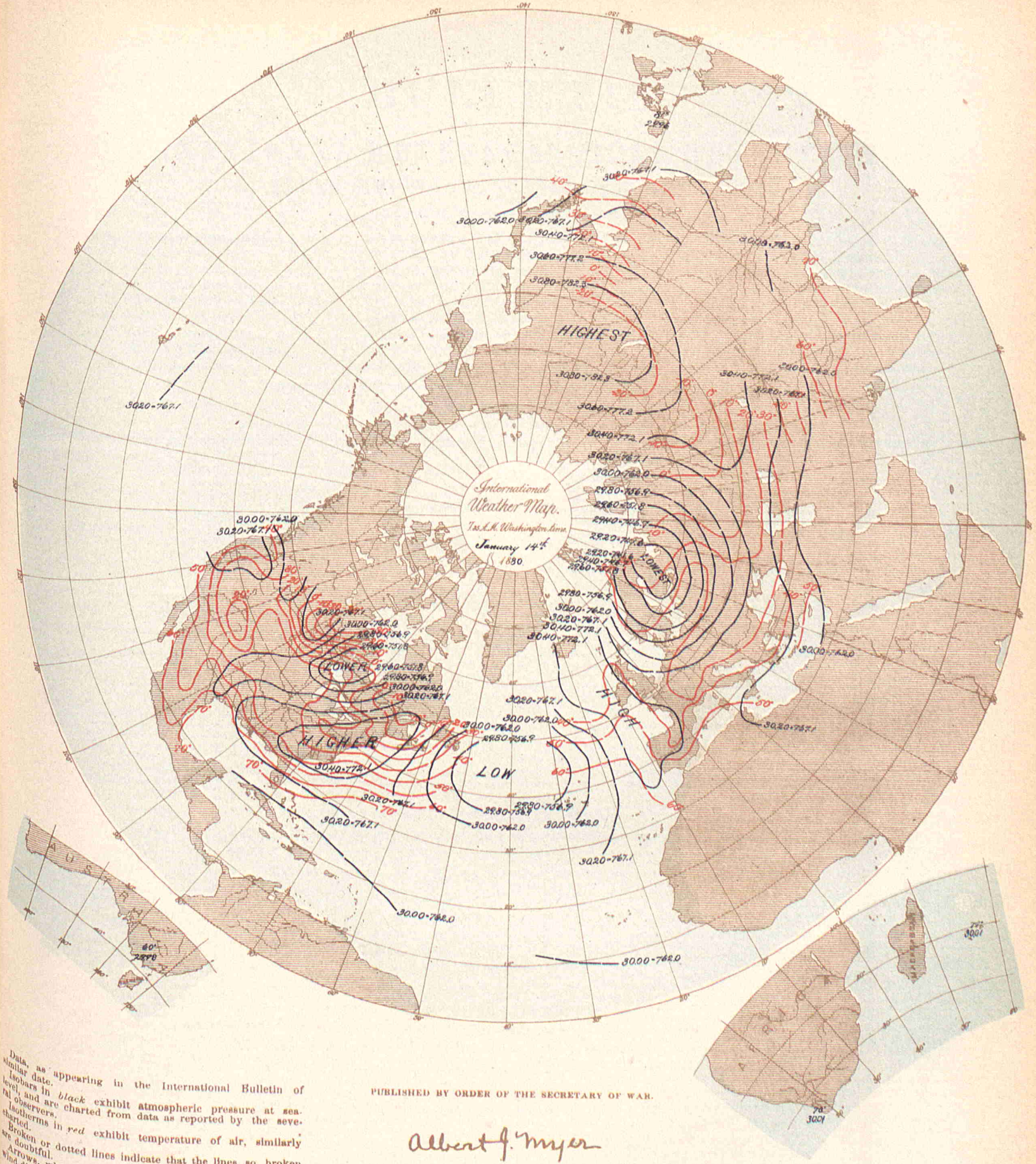
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON JANUARY 15, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.31	769.9				NE			1		0			0	0	Clear.	
Nemours			30.25	768.4	59.4	15.2	70	NW			1		0			0	0	Clear	Kesxuche.
Algiers			30.19	766.8	57.9	14.4	55	SW			5		2			0	0	Fair	Tourillere.
La Calle			30.11	764.8	56.5	13.6	52	NW			7		8			0.3?8	8.7	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30 12	765.0															Herbin.
Tebessa			30.23	767.7															
Geriville			30.23	767.8	45.0	7.2	51	NNW			5		6			0	0	Cloudy	Watrin.
Laghouat								N			1		0			0	0	Clear.	Brugniaux.
Biskra			30.29	769.4	49.6	9.8	46	SSW			1		0			0	0	Clear.	Bertrand.
			30.24	768.1	55.0	12.8	52	NW			5		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.44	747.8	30.03	762.8	21.6 — 5.8		98					10				0.157	4.0	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.5	29.88	758.9	28.8 — 1.8		92	SW	4.7	2.1		10				0.004	0.1		Dr. Wierzbicki.
Eperies	28.98	736.2	29.92	760.0	22.6 — 5.2		96	S			2	10ks				0.045	1.16		Julius Mikolik.
Gratz	28.69	728.7	30.00	762.1	29.8 — 1.2		59	SSW			2	5				0	0		Andreas Rospini.
Hermannstadt	28.45	722.7	30.01	762.2	13.5 —10.3		70	SE			2	2				0	0		Prof. A. Gottschling.
Kremsmünster	28.64	727.4	30.06	763.4	27.3 — 2.6		87	WNW			2	10				0.094	2.4		Prof. C. Wagner.
Lemberg	28.77	730.7	29.82	757.4	25.3 — 3.7		95	NW			1	9				0.004	0.1		Dr. T. Stanecki.
Pola	29.79	756.6	29.90	759.5	37.4 3.0		88	ENE			2	10				0.291	7.4		I.R.Hydrographic Office
Szathmar	29.50	749.2	29.99	761.8	23.4 — 4.8		95	E			2	10				0.157	4.0		Pet. Panesics, S. J.
Segedin	29.70	754.4	30.00	761.9	29.8 — 1.2		84	S			2	10				0	0		Karl Stancel.
Trieste	29.84	758.0	29.95	760.6	37.9 3.3		56	ENE			3	9				Inap.	Inap.	Light rain	P. Busin.
Vienna	29.24	742.6			30.6 — 0.8			WNW			3					0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes	29.97	761.3	30.18	766.6	34.7	1.5	88	W			2	10		NW		0.094	2.40		M. E. de Cae.
Maeseyck	30.21	767.3	30.23	767.9	37.0	2.8	67	NNW			4	2				0.012	0.3		M. Pierrot.
	30.39	769.7	30.43	772.9	34.7	1.5	91	W			2	10				0.098	2.5	Snowing	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.05	763.3	30.16	776.1	37.6	3.1		WNW	16	7.2			3			0.480	12.19	Blue sky	W. Boswell.
Ardrossan	30.16	766.1	30.17	766.3	45	7.2		NW			4		2					Blue sky	G.Carrick.
Armagh, (Observatory)	30.13	765.3	30.37	771.4	41.6	5.0		SW	8	3.6			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.30	769.6	36 6	2.6		W	21	9.4			10					Raining	John Hartnup.
Bolton (Sharples)	29.70	754.4	30.23	767.8	35.0	1.7		NE					10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.83	757.7	30.22	767.6	36.4	2.4	76	W			3		9			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.86	758.4	29.90	759.4	79	26.1		NE			2		8					Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.17	766.3	30.26	768.6	40.1	4.5		NW			1		5			Blank	Blank	D. clouds	H. Todd.
Cardington			30.25	768.3	37 4	3.0		NW			0–1		2					Blue sky	John McLaren.
Chatham (School M. E.)	30.16	766.1	30.30	769.6	35.2	1.8		W			2		6					D. clouds	W. Gibson, Sapper, R.E
Donaghadee	30.26	768.6	30.30	769.6	42	5.6		W			4		8					D. clouds	J. Mac Gowan.
Dover	30.23	767.8	30.26	768.6	35	1.7		W.			2		9					Gloomy	J. Costello.
Falmouth (Observatory)	30.16	766.1	30.39	771.9	41.4	5.2		NW			1		9					Overcast	The Staff.
Fort Napier, Natal	27.72	704.1	29.94	760.5	67.8	19.9		NE			1		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.36	771.1	45	7.2		WSW			1		9			0.04	1.0	Gloomy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	29.94	760.5	30.15	765.8	42.4	5.8		WNW			3		9k					Gloomy	D. G. Maclean.
Great Yarmouth	30.20	767.1	30.20	767.1	37	2.8		NW			3		8					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.12	765.0	30.30	769.6	35.0	1.7		WNW			1		9					Almost overcast	The Staff, for G.B.Airy.
Guernsey	30.14	765.5	30.36	771.1	40	4.4		NNW			1		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.53	775.4	30.66	778.7	44	6.7		NE			2		10m			0	0	Overcast	M. P. Moyle.
Holyhead	30.27	768.8	30.34	770.6	44	6.7		WNW			4		6					D. clouds	John Tilston.
Jersey	30.10	764.5	30.41	772.4	38.9	3.8		WNW			1		6					D. clouds	J. Fisher.
Kew (Observatory)	30.26	768.6	30.30	769.6	32.2	0.1		W	10	4.5			9					Misty	The Met'g'l Office.
Leicester (Museum)	30.02	762.5	30.28	769.1	38.1	3.4		NW			1		10			Blank	Blank	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.00	762.0	30.08	764.0	53.8	12.1		SW			2		6k			Blank	Blank	D. clouds	A. King.
Nairn	30.07	763.8	30.17	766.3	38	3.3		Calm			0		8					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.04	763.0	68.8	20.4		NE			3		10			Blank	Blank	Overcast	C. S. Duncombe.
Nottingham (Observatory)	30.08	764.0	30.28	769.1	38.7	3.7		NW			2		10k;s		NW	0.064	1.62	Snowing	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.76	755.9	30.31	769.9	36.4	2.4		NW			2–3		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.28	769.1	30.36	771.1	37.9	3.3		NW			1		0					Foggy	John Merrifield.
*Roche's Point	30.38	771.6	30.45	773.4	42	5.6		NNW			3		2					⅛ clouded	Wm. Kennedy.
St. Ann's Head	30.22	767.6	30.39	771.9	41	5.0		NNE			1		1					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.15	765.8	37.2	2.9		N	6	2.7			10					Drizzling	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.87	758.7	29.94	760.5	40.8	4.9		SE			1		8					D. clouds	Serg't W. H. Lane.
Sheffield	30.00	762.0	30.30	769.6	39.7	4.3		NW			1		9			0.05	1.3	Overcast	W. F. Cooper.
Silloth Rectory	30.12	765.0	30.15	765.8	39.9	4.4	93	W			1		10			0.062	1.57	Raining	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.25	768.3	33.3	0.7		WSW	7	3.1			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss					31.8	— 0.1		N			1		8					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.30	769.6	30.39	771.9	45	7.2		N			6		4					D. clouds	W. Newcombe.
Valencia Observatory	30.44	773.2	30.46	773 7	45.0	7.2		ENE	4	1.8			10			Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	79.0	26.1	40	S	19.4	8.7		0	0			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.76	679.7			77	25.0		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.16	766	66.8	16		SE			Slight	Slight				0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.16	766.1	38.0	3.3		NW			1	10k				0.15	3.8	Overcast	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.4	81.2	27.3	62	E	22.5	10.1		0	4		ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.82	757.4	29.92	759.9	58.1	14.5	71	SE	9	4.0			2			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.21	767.3	47	8.3		NNW			3	5	5	NW		0.2	5.		
North Unst, Shetland Is			30.06	763.5				N			2	5	5			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palm as uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. Alert, Silly Bay, Patagonia			29.18‡	741.1‡	50.2	10.1		Calm			0		10					Drizzling	Capt. J. P. Maclear, R.N.
Barque Belle-Isle, N. 49° 15′, W. 6° 20′			30.38	771.6	48	8.9		NNE			2		6	WSW		2	SSW	D. clouds	Capt. A. J. Brown
City of Agra, S. 51° 25′, W. 147° 20′			29.47‡	748.5‡	37.5	3.1		S			7		8					Snow & sleet	Capt. Thos. Young.
City of Cashmere, S. 55° 13′, W. 80° 30′			29.23‡	742.4‡	45.2	7.3		S			4	c	5cs	NW	WSW			D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 34° 20′, W. 50° 00′			30.05‡	763.3‡	60	15.6		N			6		4					Squally	Capt. Jas. Buchan.
S. S. Decapolis, N. 46° 00′, W. 10° 39′			30.45‡	773.4‡	48.5	9.2		E			3		7					Misty	Capt. T. M. Almond.
Barque Dochra, S. 26° 50′ W. 124° 10′			30.11‡	764.8‡	78	25.6		ESE			4		5					D. clouds	Capt. N. Spalding.
Barque Fedalma, N. 45° 15′, W. 24° 10′			30.09	764.3	62	16.7		ESE			4		7			3	SSW; ESE	Misty	Capt. H. L. Fox.
S. S. German, Cape Town, Cape Colony			29.97	761.2‡	79	26.1		SSE			3		5					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, Rum Cay, N. 23° 58′, W. 74° 56′			29.96	761.0	73	22.8		E			6		4			3		Showery	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 12° 02′, E. 88° 21′			29.95‡	760.7‡	79.3	26.3		ENE			4		5					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 31° 15′, E. 32° 20′			29.94‡	760.5‡	58.5	14.7		SW			3		2					Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	58.6	14.8	86	SE			1		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,148 meters, or 3,767 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.3	29.82	757.5	27.5	— 2.5	70	N			4		0						
Faröe	29.92	760.0	29.94	760.5	32.7	0.4		NNE			2		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.24	768.2	30.29	769.3	54.5	1.4	96	Calm			0		10					Foggy	
Thorshavn (Faröe)	30.11	764.7	30.14	765.6	32.4	0.2	80	N			2		6						
Vestervig	29.81	757.2	29.92	760.0	32.2	0.1	76	Calm			0		8					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.80	757.0	30.35	771.0	36.5	2.5	75	NW			1		10n			0.008	0.2	Covered	Collignon, Director.
Amiens, Normal School	30.20	767.0	30.32	770.0	36.7	2.6	75	NW			1		5		SE	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.00	761.9	30.27	768.8	33.8	1.0	84	NW			3		k			0	0		Klein, Commandant.
Avignon, Normal School	30.07	763.6	30.14	765.6	40.6	4.8	51	N			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.71	754.6	30.30	769.5	33.3	0.7	88	WNW			1		10			0.047	1.2	Snowing	C. Saillard, Director.
Beauvais, Normal School	30.02	762 6	30.31	769.8	36.0	2.2	75	NNW			1		10		NW.	0.016	0.40	Covered	Frère Eugene Marie.
Besançon, Normal School	29.42	747.3	30.36	771.2	34.6	0.3		NE			1		10		NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.12	765.0	30.32	770.0	36.5	2.5	95	NE			1		10			0.012	0.30	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.40	746.8	30.32	770.0	33.4	0.8	96	N			1		cn			0	0		Marlot, Director.
Bourges, Normal School	29.74	755.4	30.33	770.3	33.6	0.0	94	N			1		10n		NW	0.08	2.	Covered	M. Gence, Director.
Brest, Naval Observatory	30.17	766.2	30.41	772.4	40.3	4.6	87	Calm			0		10		E	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	30.29	769.8	30.37	771.3	38.3	3.5	76	NW			1		10		WNW	0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.83	757.7	30.27	768.8	37.9	3.3	62	W			2		10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch	29.96	761.0	30.30	769.6	33.8	1.0	96	SW			1		8	NE	NE			Very cloudy	Jadot, Director
Chartres, Normal School	29.72	754.9	30.32	770.1	33.4	0.8	99	N			1		10			0.04	1.	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.87	733.3	30.30	769.7	32.4	0.2	79	N			3		10		N	0	0		Alluard, Director.
Commercy, Normal School	29.33	744.9	30.24	768.0	32.0	0.0		W			1		5n	W	W	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.87	733.3	30.01	762.3	41.0	5	44	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.47	748.4	30.28	769.1	33.4	0.8		NW			2		8kn		NW	0.283	7.2	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.19	766.7	30.37	771.4	37.4	3.0	83	N			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	30.07	763.8	30.40	772.1	34.3	1.3	89	NNE			1		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.34	745.1	30.35	770.9	28.4	— 2	92	S			1					0	0		A. Baudry, Director
Lorient, Naval Observatory	30.31	769.8	30.42	772.6	38.8	3.8	83	ENE			1					0	0	Misty	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.64	752.8	30.30	769.5	33.3	0.7	70	N			1		10			0.128	3.25	Snowing	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.72	754.8	29.99	761.8	42.3	5.7	51	NNW			6-7		1		NNW	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.16	740.6	30.26	768.5	33.1	0.6	86	NE			1		10n			0	0	Covered	Barbier, Director.
Mont-Louis	24.81	630.2	30.13	765.2	28.4	— 2.0	90	ENE	13.0	5.8			0			0	0		M. Cave
Nice	29.87	758.8	29.91	759.7	52.5	11.4	63	NW			4		1	NW	NW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	29.95	760.8	30.17	766.2	42.3	5.7	97	N			4		cn		N	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.03	762.7			35.1	1.7	87	WNW			1		10			0.012	0.3		Marié Davy, Director.
Perpignan	30.09	764.2	30.20	767.1	43.6	7.0	55	N	22.4	10.0			3	NW		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.60	571.5			25.9	— 3.4									NNW	0	0		Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			M. Baylac.
Privas, Normal School	29.09	738.9	30.21	767.3	36.3	2.4	75	N			1		10	N	N	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	25.17	639.4			18.3	— 7.6	94	NNW			2					0.591	15.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.37	771.5	30.41	772.3	37.0	2.8	92	NE			1		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.23	767.8	30.32	770.0	37.0	2.8	78	NNW			1		10			0.016	0.4	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.34	770.6	30.37	771.3	39.0	3.9	56	NNE			2		8	N	N	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.15	765.7	30.31	769.9	34.9	1.6	92	WNW			1		10			0.008	0.2	Covered	E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.32	770.0	39.2	4	90	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.62	752.8	30.35	770 8	34.0	1.0	95	NNW			1		10			0	0	Covered	M. Julier Mercadier.
Tours	30.14	765.6	30.34	770.6	35.2	1.8	85	N			1		10			0	0	Misty	Cousin-Marquet.
Versailles, Observatory	29.80	756.9	30.29	769.4	33.4	0.8	92	NW			1		10			0.007	0.18	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N. S	29.55	750.6	30.31	769.8	32.4	0.2	97	NW			1		10			0.146	3.7	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	75.6	24.2										1.93	49.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.40	772.2	30.43	772.8	39.7	4.3	86	NNE	2.7	1.2			10			0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.12	739.6	29.98	761.5	26.1	— 3.3	78	NW			4		6ks			0.039	1.0	Snowing	Prof. Dr. Hoh.
Berlin	29.69	754.1	29.87	758.8	30.6	— 0.8	81	W			1		2	W		0.012	0.3		Prof. Dr. Arndt.
Breslau	29.36	745.8	29.89	759.2	27.9	— 2.3	75	WNW			5		8						Royal University Obs'y.
Carlsruhe	29.71	754.5	30.16	766.0	33.4	0.8	82	SW			2		10	NW		0.031	0.8		Albert Senz.
Cassel	29.33	745.0	29.94	760.4	32.7	0.4	91	NW			2		10	W		0.048	1.22		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.79	756.6	30.17	766.4	35.2	1.8	68	WNW			3		9			Inap.	Inap.		Physical Society.
Friedrichshafen	28.70	728.9	30.21	767.2	31.8	— 0.1	68	WSW			4		6	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.84	757.8	29.91	759.6	31.8	— 0.1	87	NW			2		4			0.035	0.9		Dr. Reinhold Kleeman.
Kiel	29.88	759.0	29.90	759.4	32.2	0.1	74	N			1		1			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.61	749.6	29.80	751.8	28.4	— 2.0	70	NW			5		5			0.020	0.5		Prof. E. Luther.
Köslin			29.69	754.2	29.7	— 1.3		N			2		2			0.075	1.9		H. Müller.
Leipsic Observatory	29.53	750.1	29.97	761.3	30.9	— 0.6	81	W			2		7	WNW		0.067	1.7		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.69	754.1	29.91	759.8	32.5	0.3	89	NW			5		10ks	NW		0.189	4.8		Dr. Assmann.
Memel	29.45	747.9	29.49	749.0	28.6	— 1.9	90	NW			6–7		9k					Snow-squalls	Reinbrecht & Issermann.
Munich (München)	28.22	716.9	30.09	764.3	28.2	— 2.1	70	W			5		9	W		0.063	1.6		Dr. C. Lang.
Neufahrwasser	29.65	753.1	29.87	758.5	26.6	— 3.0	78	NW			2		3			0.067	1.7		A. Lothes.
Neustadt (Palatinate)	29.58	751.2	30.11	764.7	35.4	1.9	93	W			4		5	W		0	0		Reallehrer Dicknether
Posen	29.50	749.2	29.80	756.9	28.8	— 1.8	66	W			6		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.66	753.3	30.24	768.0	34.3	1.3	83	SW			2		10	W		0.035	0.88		Imp. University Observatory.
Stuttgart	29.18	741.1	30.17	766.2	32.9	0.5	64	W			2		3	W		0.035	0.9		Prof. Dr. Schoder.
Thorn	29.58	751.4	29.77	756.1	30.2	— 1.0	79	NW			3		8			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.56	725.5	30.14	765.6	28.0	— 2.2	92	WNW	5.8	2.6			9kn		NW	0.035	0.9	Light snow.	Reallehrer J. Hopfner
Wustrow	29.80	756.9	29.82	757.5	34.7	1.5	96	N			5		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.4	30.03	762.7	45.1	7.3		SW			1.0		0					Clear	Dr. J F. J Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.3	29.95	760.6	74.5	23.6	62	NW	4	1.8			0			0	0	Blue sky	
Deesa	29.51	749.5	29.99	761.7	79.9	26.6	37	WNW	6.4	2.9			3	E		0	0	D. clouds	
Bombay	29.90	759.3	29.93	760.3	78.4	25.8	78	WNW	8	3.6			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.2	29.92	760.0	83.3	28.5	28	ENE	3	1.3			0			0	0	Blue sky	
Belgaum	27.40	696.0	29.92	760.0	81.9	27.7	24	ENE	3	1.3			0			0	0	Blue sky	
Lahore	29.16	740.6	29.93	760.2	61.6	16.4	41	Calm	0.6	0.3			0			0	0	Blue sky	
Roorkee	28.94	734.9	29.86	758.4	66.8	19.3	24	NW	2.0	0.9			0			0	0	Blue sky	
Agra	29.33	745.0	29.91	759.7	70.7	21.5	42	W	4.7	2.1			0			0	0	Blue sky	
Nagpur	28.90	734.2	29.96	760.9	78.0	25.6	31	Calm	1.7	0.8			0			0	0	Blue sky	
Jubbulpore	28.59	726.1	29.99	761.8	66.9	19.4	43	Calm	1.7	0.8			0			0	0	Blue sky	
Lucknow	29.53	750.2	29.92	760.0	68.3	20.2	24	NW	1.6	0.7			0			0	0	Blue sky	
Allahabad	29.61	752.0	29.93	760.3	62.8	17.1	62	Calm	2.2	1.0			0			0	0	Blue sky	
Patna	29.76	755.8	29.95	760.6	69.3	20.7	43	W	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.88	708.2	29.97	761.3	59.8	15.4	34	W	5.6	2.5			0			0	0	Blue sky	
Cuttack	29.88	758.9	29.96	761.1	72.0	22.2	61	Calm	0.8	0.4			0			0	0	Blue sky	
Jalcutta (Alipore)	29.93	760.3	29.96	760.9	64.3	17.9	65	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.56	750.7	29.96	761.0	65.6	18.7	73	E	3.8	1.7			5		W	0	0	D. clouds	
Chittagong	29.87	758.7	29.96	761.0	70.4	21.3	85	SW	3.0	1.3			0			0	0	Misty	
Sibsagar	29.66	753.4	30.02	762.4	61.9	16.6	94	NE	2.0	0.9			10	W	W	0.34	8.6	D clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.53	750.1	29.97	761.2	36.9	2.7	54	Calm	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.43	747.5	29.98	761.4	25.7	— 3.5	93	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.84	757.9	29.96	760.9	32.0	0.0	73	NNW	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.04	737.6	29.98	761.4	27.0	— 2.8	74	NE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.71	754.6	29.91	759.7	45.7	7.6	43	NE	9.4	4.2	.....	.....	0	.....	.....	0.035	0.9	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	711.0	30.02	762.4	33.1	0.6	91	NE	.....	.....	2	.....	0	.....	.....	0.177	4.5	.....	Prof. D. C. Bruno.
Pesaro	29.89	759.1	29.94	760.4	31.1	— 0.5	90	NW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.66	753.3	29.93	760.2	42.8	6.0	59	NE	.....	.....	4	.....	10	SW	.....	0.008	0.2	.....	Cav. F. Meucci.
Leghorn	29.80	756.8	29.89	759.1	44.8	7.1	71	ENE	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.65	753.2	29.84	757 9	46.6	8.1	80	E	8.7	3 9	.....	.....	6	.....	.....	0.020	0.5	.....	Prof. P. S. Ferrari
Lecce	29.70	754.3	29.97	761.1	48.2	9.0	54	SSE	7.4	3.3	.....	.....	3	S	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.07	738.4	30.00	761.9	42.1	5.6	75	NW	0.7	0.3	.....	.....	8	.....	.....	0.079	2.0	.....	Prof. D. Conti.
Cagliari	29.71	754.6	29.91	759.8	48.2	9.0	68	NW	.....	.....	4	.....	8	NW	.....	0.024	0.6	.....	Prof. A. Pacinotti.
Palermo	29.69	754.2	29.95	760.8	45.7	7.6	84	WSW	4.9	2.2	.....	.....	10	.....	.....	0.193	4.9	.....	Prof. G. Cincciatore.
Syracuse	29.96	761.0	30.00	762.1	49.8	9.9	72	W	9.8	4.4	.....	.....	7	WSW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.6	29.85	758.3	43.7	6.5	90	NE	2.5	1.1	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.33	770.4	30.34	770.6	35.0	1.7	83	NE	4.4	2.0	.....	.....	10m	.....	.....	.....	.....	Snowing	K. Sasaki.
Nagasaki, I. M. Obs'y	30.17	766.3	30.38	771.6	35.3	1.8	63	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.00	762.0	30.07	763.8	32.9	0.5	90	NNW	8.7	3.9	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.21	767.3	30.27	768.8	36.7	2.6	75	N	5.8	2.6	.....	.....	1ks	.....	.....	0.064	1.63	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.6	30.28	769.0	40.6	4.8	55	Calm	.....	.....	0	7k	0	.....	.....	0	0	Foggy	Prof. L. Perez.
Leon	24.47	621.5	30.30	769.6	48.9	9.4	83	SW	.....	.....	1	1c	0	SE	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.71	754.5	29.97	761.2	64.6	18.1	91	NW	.....	.....	1	7cs	0	SE	.....	0	0	Cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.07	586.0	30.20	767.1	46.0	7.8	83	Calm	0	0	.....	10k	0	.....	.....	0	0	Covered	The Staff
Morelia	24.12	612.6	.....	.....	56.8	13.8	62	NW	.....	.....	3	2c	6k	S	SW	0	0	Cloudy	M. Fena, M. D.
Pabellon (Aguascalientes)	23.97	608.9	30.14	765.6	44.6	7.0	72	NW	.....	.....	1	3cs	0	SE	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.62	597.5	30.61	777.5	37.9	3.3	48	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.21	615.0	30.30	772.0	42.8	6.0	57	E	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.06	763.5	30.07	763.8	67.5	19.7	91	S	.....	.....	1	0	0	.....	.....	0	0	Dense fog	Prof. M. M. Chazaro.
Vera-Cruz	30.06	763.6	30.09	764.3	68.9	20.0	77	Calm	0	0	.....	2k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.58	573.6	30.30	769.7	50.0	10.0	68	Calm	.....	.....	0	2s	0	.....	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.20	767.1	30.20	767.1	36.0	2.2	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.094	2.4	.....	
Groningen	29.85	760.7	30.00	762.1	35.1	1.7	.....	N	.....	.....	2	.....	.....	.....	.....	0.063	1.6	.....	
Helder	30.07	763.8	30.07	763.8	36.5	2.5	.....	NW	.....	.....	4	.....	.....	.....	.....	0.122	3.1	.....	
Hellevoetsluis	30.15	765.9	30.13	765.9	36.9	2.7	89	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.07	763.6	30.11	764.8	35.2	1.8	91	WNW	.....	.....	3	.....	5	.....	.....	0.079	2.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather is published, from which I have inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.91	759.6	29.96	761.0	30.9	— 0.6	92	N	6.0	2.7	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.86	759.0	29.92	760.0	24.4	— 4.2	59	Calm	0	0	.....	.....	8	.....	.....	0.039	1.0	.....	
Christiana	29.76	756.0	29.92	759.9	26.4	— 3.1	46	NNE	9	4	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.85	758.1	29.89	759.2	26.6	— 3.0	83	N	7	3	.....	.....	10	.....	.....	0.083	2.1	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.8	30.32	770.0	49.3	9.6	51	ENE	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.21	767.2	30.30	769.5	65.1	18.4	59	SE	11.2	5.0	.....	.....	8	.....	.....	0.028	0.7	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.00	762.0	30.37	771.3	54.1	12.3	62	NE	3.8	1.7	.....	.....	1	.....	.....	.0	0	.....	The Staff.
Ponta Delgada (Azores)	29.85	758.3	29.93	760.1	62.6	17.0	86	S	28.0	12.5	.....	.....	10	.....	.....	0.154	3.9	.....	

NOTE.—The originals give the wind-velocity in Kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. N. 14° 06', W. 21° 33'..	.....	.....	.....	.....	75.6	24.2	.....	E	.....	.....	2	.....	7	.....	E	2	E	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea	.....	.....	29.86	758.4	69.8	21.0	.....	NW	.....	.....	3	.....	2	.....	.....	2	NW	D. clouds	F. de Assis Camillo, Jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no hrmidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.37	746.1	29.39	746.6	3.9	—15.6	85	ENE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.39	771.8	30.30	769.7	29.3	— 1.5	72	SW	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.03	762.7	30.61	777.5	—15.3	—26.3	96	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.09	738.8	29.34	745.2	22.6	— 5.2	93	WNW	4	2	.....	.....	10n	.....	.....	Light snow.	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.13	740.0	30.19	766.9	9.1	—12.7	80	SW	4	2	.....	.....	10	.....	.....	Light clouds	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.58	751.2	29.87	758.6	12.2	—11.0	100	SSE	16	7	.....	.....	10	.....	.....	Snow-drift..	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.06	738.1	29.73	755.2	22.5	— 5.3	80	WSW	9	4	.....	.....	5cks	.....	.....	Light clouds	.....	.....	Physical Cabinet.
Krotkowo*	29.53	750.1	30.04	763.1	12.2	—11.0	79	S	13	6	.....	.....	10	.....	.....	Snow-drift..	.....	.....	Cand. Fatjanow.
Lugan	29.78	756.5	30.00	761.9	30.9	— 0.6	86	S	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	28.98	736.1	29.56	750.7	24.1	— 4.4	70	S	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.22	716.9	30.97	786.5	—26.0	—32.2	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.89	759.1	29.96	760.9	24.1	— 4.4	59	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.30	769.5	30.55	776.0	19.4	— 7.0	92	WSW	4	2	.....	.....	10ns	.....	.....	.....	.....	.....	.....
Oenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.30	769.6	30.44	773.2	22.6	— 5.2	90	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.25	742.9	29.26	743.3	23.2	— 4.9	100	NE	7	3	.....	.....	10n	.....	.....	Snowing	.....	.....	Central Physical Obs.
Tashkend	28.82	732.1	30.51	775.0	26.2	— 3.2	100	.....	.....	.....	.....	.....	10	.....	.....	Blank	Blank	.....	Telch, A. M.
Tiflis	28.89	733.8	30.39	772.0	32.2	0.1	39	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.28	743.6	29.72	754.8	27.3	— 2.6	87	W	18	8	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.08	738.5	29.52	749.7	26.2	— 3.2	80	WSW	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.55	776.0	30.90	784.8	—26.9	—32.7	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.05	763.2	30.16	766.0	45.5	7.5	62	ENE	1.4	0.64	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.28	769.2	30.34	770.7	52.5	11.4	76	W	0.2	0.10	.....	.....	10	.....	.....	0.102	2.6	Misty	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.30	693.4	.....	.....	30.2	— 1.0	96	S	1.0	0.46	.....	0	0	.....	.....	0	0	Foggy	Domingo Martin y Perez.
Madrid, Royal Observatory	28.60	711.1	30.34	770.6	37.4	3.0	70	S	2.2	1.00	.....	1	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.06	763.4	30.21	767.3	58.6	14.8	44	SW	1.5	0.69	.....	3	2	ENE	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.6	30.32	770.1	45.5	7.5	76	SW	0	0	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.96	761.0	30.03	762.7	74.4	23.6	67	NNE	4.3	1.9	.....	0	1ks	.....	ENE	0.016	0.4	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.90	759.4	29.95	760.7	80.1	26.7	75	E	4.9	2.2	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.22	767.6	30.32	770.2	52.7	11.5	68	WNW	5.7	2.5	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.85	758.3	29.95	760.6	76.3	24.6	84	SE	0	0	.....	2ck	1k	SE	SE	0	0	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.4	29.74	755.4	21.2	— 6.0	.....	N	.....	.....	4	.....	10	.....	.....	0.079	2.0	.....	
Umea	29.72	754.9	29.77	756.2	22.3	— 5.4	85	NNE	.....	.....	4	.....	10	.....	.....	0.008	0.2	.....	
Hernosand	29.70	754.3	29.75	755.6	25.5	— 3.6	65	N	.....	.....	6	.....	5	.....	.....	0	0	.....	
Stockholm	29.50	749.2	29.67	753.7	28.4	— 4.8	83	N	.....	.....	4	.....	4	.....	.....	0.031	0.8	Light snow.	
Wisby	29.50	749.2	29.58	750.7	28.0	— 2.2	79	N	.....	.....	8	.....	7	.....	.....	0.028	0.7	Snowing	
Sub-Series.																			
Upsala	29.58	751.4	29.67	753 6	22.6	— 5.2	63	N	8.7	3.9	.....	.....	1	.....	.....	0.062	1.57	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.75	730.3	30.24	768.1	34.2	1.2	65	N	.....	.....	2	.....	4	.....	.....	0.094	2.4	Cloudy.....	The Observatory.
Zurich	28.52	724.5	30.24	768.2	30.2	— 1.0	75	W	.....	.....	1	.....	7	.....	.....	0.020	0.5	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer, —0.2 Cent.; Relative Humidity, —14 per cent. Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.1	39.6	4.2	65	S	3	1.5	.....	.....	7	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.95	760.7	46.9	8.3	.....	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.97	761.3	55.8	13.2	53	ESE	.....	.....	3	.....	10n	.....	S	0.03	0.8	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.37	771.4	30.38	771.6	— 2.5	—19.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.27	768.8	30.34	770.6	0.3	—17.6	94	Calm	0	0	.....	2k	7ks	W	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.35	770.9	30.40	772.1	— 2.8	—19.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.90	759.4	30.10	764.5	30.5	— 0.8	97	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.12	765.0	30.31	769.9	— 2.0	—18.9	.....	W	1	0.4	.....	0	7ks	.....	.....	0	0	Fair	H. A. Johnson.
Father Point, Quebec	30.12	765.0	30.14	765.5	14.3	— 0.8	91	SW	20.0	8.9	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.25	768.3	30.32	770.1	1.4	—17.0	89	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Harrison.
Fort Garry, Manitoba	28.71	729.2	29.60	751.8	4.3	—15.4	92	S	20	8.9	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	29.09	738.9	30.26	768.6	28	— 2.2	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	30.31	769.9	30.46	773.7	7.0	—13.9	86	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	A. Allison.
Hamilton, Ontario	29.89	759.2	30.28	769.1	28.7	— 1.8	93	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.83	757.7	30.18	766.6	32.1	0.1	92	W	4	1.8	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.29	769.4	30.33	770.4	10.5	—11.9	77	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Montreal, Quebec	29.91	759.7	30.12	765.0	26.2	— 3.2	89	E	12	5.4	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	C. H. McLeod, C. E
Moose Factory, Ontario	30.16	766 1	30.20	767.1	—10.8	—23.8	86	SW	.....	.....	3	0	0	.....	.....	0.90	22.9	Clear	J. R. Nrson.
Norwood	29.45	748.0	30.19	766.8	28.0	— 5.0	86	NW	11	4.9	.....	0	2s	.....	.....	0	0	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.56	760.8	30.32	770.1	10.3	—12.1	69	W	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.46	748.3	30.27	768.8	20.4	— 6.4	62	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.53	750.0	30.26	768.6	30.0	— 1.1	89	N	6	2.7	.....	10ck	0	NW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.59	751.6	30.28	769.1	28.2	— 2.1	76	N	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.80	756.9	30.15	765.8	15.0	— 9.4	100	Calm	.....	.....	0	.....	Fog	.....	.....	0.02	0.5	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. John, N. B	30.15	765.8	30.33	770.4	26	— 3.3	87	S	9	4.0	.....	.....	10ks	.....	.....	.....	.....	Light snow.	G. Murdock, C. E.
Saugeen, Ontario	29.55	750.6	30.32	770.1	22.0	— 5.6	78	N	11	4.9	.....	.....	10ks	.....	.....	0	0	Overcast	K. Stewart.
Stratford, Ontario	28.92	734.6	30.29	769.4	22.2	— 5.4	93	NW	8.0	3.6	.....	2cs	2s	NW	.....	0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B	30.31	769.9	30.36	771.1	9.0	—12.8	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.88	758.9	30.29	769.4	25.4	— 3.7	81	N	13	5.8	.....	2cs	5s	NW	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	30.32	770.1	30.42	772.7	7.5	—13.6	66	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram, M.A.
Woodstock, Ontario	29.16	740.7	30.29	769.4	25.1	— 3.8	90	NW	12	5.4	.....	0	8s	.....	W	0	0	Cloudy	Professor Wolverton.
Yarmouth, N. S	30.33	770.4	30.40	772.1	21.3	— 5.9	87	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.71	754.6	29.97	761.2	30	— 1.1	.....	NE	.....	.....	.....	.....	10	.....	.....	0.20	5.1	Sleeting	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.05	763.3	21.9	— 5.6	.....	N	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.04	763.0	30.28	769.1	26	— 3.3	75	S	5	2.2	.....	8cs	0	W	.....	0	0	Fair..	
Alpena, Michigan	29.63	752.6	30.34	770.6	15	— 9.4	82	W	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.10	739.1	30.31	769.9	35	1.7	70	E	10	4.5	.....	5cirs'	Sm'e	Calm	Calm	0	0	Fair...	
Atlantic City, New Jersey	30.31	769.9	30.32	770.1	33	0.6	89	NW	5	2.2	.....	10k	0	SW	.....	0	0	Cloudy	
Augusta, Georgia	30.15	765.8	30.36	771.1	46	7.8	62	NW	1	0.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Baltimore, Maryland	30.30	769.6	30 35	770.9	32	0.0	69	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Barnegat, New Jersey	30.29	769.4	30.31	769.9	33	0.6	89	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	27.69	703.3	29.55	750.6	28	— 2.2	77	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.69	728.7	30.05	763.3	44	6.7	68	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.40	696.0	30.36	771.1	38	3.3	72	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.14	765.5	30.31	769.9	30	— 1.1	78	SW	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Brackettville, Texas	29.01	736.8	30.10	764.5	45	7.2	76	N	5	2.2	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Breckenridge, Minnesota	28.67	728.2	29.71	754.6	18	— 7.8	100	S	24	10.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.04	763.0	30.08	764.0	67	19.4	89	S	2	0.9	.....	2k	0	Calm	.....	0	0	Clear.	
Buffalo, New York	29.47	748.5	30.20	767.1	34	1.1	79	N	14	6.3	.....	.....	10s	.....	NW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.89	759.2	30.19	766.8	28	— 2.2	88	S	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Cairo, Illinois	29.91	759.7	30.32	770.1	43	6.1	83	NE	4	1.8	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Campo, California	27.49	698.2	30.06	763.5	48	8.9	85	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.30	769.6	30.31	769.9	51	10.6	100	NE	11	4.9	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Cape Henry, Virginia	30.29	769.4	30.31	769.9	44	6.7	84	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.26	768.6	30.28	769.1	50	10.0	100	NE	12	5.4	.....	5ck	5s	NE	NE	0	0	Cloudy	
Cape May, New Jersey	30.28	769.1	30.31	769.9	37	2.8	80	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.37	746 0	30.09	764.3	49	9.4	64	NW	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.22	767.0	30.24	768.1	54	12.2	93	NE	14	6.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Charleston, South Carolina	30.21	767.3	30.27	768.8	48	8.9	85	N	8	3.6	.....	0	8s	.....	N	0	0	Cloudy	
Charlotte, North Carolina	29.45	748.0	30.31	769.9	36	2.2	80	NW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Chattanooga, Tennessee	29.49	749.0	30.33	770.4	36	2.2	80	NE	3	1.3	.....	2cs	Sm'e	Calm	Calm	0	0	Fair...	
Cheyenne, Wyoming	28.66	6 8.6	29.90	759.4	35	1.7	45	W	28	12.5	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.58	751.3	30.33	770.4	23	— 5.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.93	752.6	30.31	769.9	43	6.1	83	SE	2	0.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Cleveland, Ohio	29.50	749.3	30.26	768.6	34	1.1	90	W	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Coleman City, Texas	28.39	721.1	30.14	765.5	37	2.8	71	N	18	8.0	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.39	746.5	30.26	768.6	38	3.3	72	SW	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair...	
Concho, Texas	28.31	719.1	30.08	764.0	34	1.1	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.66	753.4	30.14	765.5	47	8.3	100	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.62	752.3	30.31	769.9	21	— 6.1	71	'	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	44	6.7	76	SW	.....	.....	1	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Deadwood, Dakota	25.10	637.5	.....	.....	40	4.4	31	SW	4	1.8	.....	0	8s	.....	W	0	0	Fair...	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.38	746.2	30.20	767.1	46	7.8	84	N	6	2.7	.....	5k	0	NW	.....	0	0	Fair...	
Denver, Colorado	24.72	627.9	29.94	760.5	38	3.3	38	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.32	744.7	30.28	769.1	18	— 7.8	68	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.58	751.3	30.28	769.1	28	— 2.2	88	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.49	698.2	29.91	759.7	24	— 4.4	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.56	750.8	30.32	770.1	17	— 8.3	67	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.34	745.2	30.09	764.3	5	—15.0	75	SW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair...	
Eagle Pass, Texas	29.45	748.0	30.22	767.6	50	10.0	72	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.22	767.6	30.29	769.4	32	0.0	79	SW	11	4.9	.....	.....	10ks	.....	SW	.....	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	95	Calm	0	0	.....	.....	10s	.....	S	.....	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.48	748.8	30.22	767 6	36	2.2	80	NW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Escanaba, Michigan	29.60	751.8	30.34	770.6	4	—15.6	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Florence, Arizona	28.58	725.9	30.18	766.6	32	0.0	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.36	694.9	29.16	740.7	35	1.7	90	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Custer, Montana	26.45	671.8	.....	.....	49	9.4	37	SW	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.32	643.1	30.28	769.1	35	1.7	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.66	753.4	30.23	767.8	36	2.2	90	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.33	643.4	30.13	765.3	38	3.3	38	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.96	735.6	30.29	769.4	38	3.3	72	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	26.86	682.2	.....	.....	39	3.9	71	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.92	709.2	29.93	760.2	35	1.7	80	N	7	3.1	.....	4cs	0	N	.....	0	0	Fair...	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.00	736.6	30.18	766.6	32	0.0	69	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.66	702.6	.....	.....	20	— 6.7	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	28	— 2.2	77	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.32	719.3	29.94	760.5	42	5.6	66	N	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair...	
Galveston, Texas	30.09	764.3	30.14	765.5	65	18.3	84	SW	6	2.7	.....	0	5ks	.....	SE	0	0	Fair...	
Graham, Texas	29.14	740.1	30.24	768.1	40	4.4	40	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.65	753.1	30.33	770.4	20	— 6.7	20	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.29	744.0	30.28	769.1	33	0.6	79	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.46	748.3	30.28	769.1	33	0.6	70	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	30.12	765.0	30.15	765.8	65	18.3	94	Calm	0	0	.....	2c	5s	W	S	0	0	Fair...	
Jacksboro, Texas	29.00	736.6	30.16	766.1	41	5.0	91	N	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksonville, Florida	30.22	767.6	30.24	768.1	52	11.1	86	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.61	752.1	30.28	769.1	23	— 5.0	73	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Key West, Florida	30.04	763.0	30.07	763.8	70	21.1	85	NE	16	7.2	.....	0	0	.....	.....	Inap	Inap.	Clear.	
Kittyhawk, North Carolina	30.29	769.4	30.32	770.1	50	10.0	93	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Knoxville, Tennessee	29.31	744.5	30.38	771.6	30.5	— 0.8	94	SE	2	0.9	.....	0	8ks	.....	SE	0	0	Fair...	
La Crosse, Wisconsin	29.46	748.3	30.26	768.6	18	— 7.8	68	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	29.22	666.0	30.37	771.4	33	0.6	51	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Laredo, Texas	29.76	755.9	30.11	764.8	60	15.6	77	N	8	3.6	.....	5k	0	W	.....	0	0	Fair...	
Leavenworth, Kansas	29.36	745.7	30.26	768.6	26	— 3.3	75	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.90	759.4	30.27	768.8	49	9.4	93	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.72	754.9	30.06	763.5	46.5	8.1	62	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.69	754.1	30.26	768.6	45	7.2	84	SE	2	0.9	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Lynchburg, Virginia	29.84	757.9	30.57	776.5	31	— 0.6	89	SW	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair...	
Madison, Wisconsin	29.23	742.4	30.31	769.9	14	—10.0	64	NE	4	1.8	.....	2cs	0	W	.....	0	0	Fair...	
Marquette, Michigan	29.52	749.8	30.29	769.4	9	—12.8	57	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.55	725.2	30.38	771.6	41	5.0	65	NW	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair...	
Memphis, Tennessee	29.90	759.4	30.25	768.3	47	8.3	85	NE	3	1.3	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.54	750.3	30 34	770.6	15	— 9.4	82	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Mobile, Alabama	30.19	766.8	30.23	767.8	55.5	13.1	78	E	4	1.8	.....	Haze	8s	.....	NW	0	0	Cloudy	
Montgomery, Alabama	30.07	763.8	30.32	770.1	42	5.6	83	NE	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Morgantown, West Virginia	29.26	743.2	30.28	769.1	42	5.6	74	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H	28.03	690.2	29.99	761.7	11	—11.7	100	NW	51	22.8	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.75	755.6	30.30	769.6	45	7.2	83	Calm	0	0	.....	0	7ks	.....	Calm	0	0	Fair	
New Haven, Connecticut	30.19	766.8	30.31	769.9	31	— 0.6	89	SW	1	0.4	.....	0	2s;fog	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.28	769.1	30.33	770.4	24	— 4.4	80	N	3	1.3	.....	4cs	Fog	SW	Calm	0	0	Fair	
New Orleans, Louisiana	30.13	765.3	30.19	766.8	59	15.0	87	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.26	768.6	30.31	769.9	38	3.3	77	SW	3	1.3	.....	5c	0	NW	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.14	765.5	30.34	770.6	29	— 1.7	79	NW	1	0.4	.....	5cs	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.27	768.8	30.35	770.9	42	5.6	91	NW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
North Platte, Nebraska	27.03	686.6	29.70	754.4	26	— 3.3	69	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	29.94	760.5	29.98	761.5	43.0	6.1	96	S	10	4.5	.....	.....	10n	.....	Calm	2.23	56.6	Light rain	
Omaha, Nebraska	28.94	735.1	30.12	765.0	20	— 6.7	70	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.88	758.9	30.21	767.3	37	2.8	93	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.64	727.4	29.54	750.3	10	—12.2	100	S	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.23	767.8	30.26	768.6	54	12.2	87	NE	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy	
Philadelphia, Pennsylvania	30.26	768.6	30.32	770.1	29	— 1.7	78	N	4	1.8	.....	ics; hzo	Haze	Calm	Calm	0	0	Hazy	
Phœnix, Arizona	28.91	734.3	30.78	781.8	48	6.1	67	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.70	449.6	29.91	759.7	11	—11.7	20	NW	36	16.1	.....	1cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.43	747.5	30.28	769.1	49	9.4	71	NW	8	3.6	.....	2k	8s	N	NW	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	20	— 1.7	67	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.42	747 3	30.26	768.6	30	3.9	73	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Port Huron, Michigan	29.59	751.6	30.30	769.6	24	— 4.4	87	N	13	5.8	.....	.....	10ks	.....	N	0	0	Cloudy	
Portland, Maine	30.21	767.3	30.26	768.6	24	— 4.4	74	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.08	764.0	30.16	766.1	47.5	8.6	89	S	13	5.8	.....	.....	10n	.....	.....	0.40	10.2	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	100	NE	14	6.3	.....	8cs	0	Calm	.....	0.01	0.3	Cloudy	
Prescott, Arizona	24.89	632.2	30.25	768.3	24	— 4.4	74	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	61	16.1	82	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Red Bluff, California	29.05	760.7	30.33	770.4	44	6.7	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.93	760.2	30.05	763.3	66	18.9	95	W	.....	.....	1	.....	10n	.....	Calm	0.07	1.8	Light rain	
Rochester, New York	29.55	750.6	30.19	766.8	36	2.2	90	W	7	3.1	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.73	755.1	30.33	770.4	35	1.7	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	30.18	766.6	30.26	768.6	40	4.4	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.72	754.9	30.33	770 4	28	— 2.2	77	N	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
St. Paul, Minnesota	29.16	740.7	30.06	763.5	14	—10.0	65	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	31	— 0.6	48	SE	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.49	749.0	30.08	764.0	55	12.8	56	NW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
San Diego, California	29.98	761.5	30.06	763.5	49	9.4	64	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.57	751.1	30.27	768.8	35	1.7	70	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.27	768.8	30.30	769.6	35	1.7	70	SW	3	1.3	.....	8ks	0	W	.....	0	0	Fair	
San Francisco, California	30.17	766.3	30.24	768.1	49	9.4	81	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	20	— 6.7	56	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.18	766.6	30.28	769.1	47	8.3	77	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.95	760.7	30.17	766.3	56	13.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.23	767.8	30.27	768.8	46	7.8	88	NE	8	3.6	.....	0	1ks	.....	Calm	0	0	Clear	
Socorro, New Mexico	25.12	638.0	29.18	741.1	28	— 2.2	54	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.08	752.6	30.35	770.9	30	— 1.1	62	NE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Springfield, Massachusetts	30.17	766.3	30.31	769.9	19	— 7.2	69	S	1	0.4	.....	2ck	Fog	SW	.....	0	0	Fair	
Stockton, Texas	27.17	690.1	30.17	766.3	34	1.1	43	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.24	768.1	30.29	769.4	39	3.9	100	SW	21	9.4	.....	10cs	0	W	.....	0	0	Cloudy	
Toledo, Ohio	29.55	750.6	30.27	768.8	30	— 1.1	68	W	5	2.2	.....	0	2s	.....	.....	0	0	Clear	
Tucson, Arizona	27.02	701.5	30.17	766.3	40	4.4	56	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.70	754.4	30.20	767.1	47.5	8.6	74	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Uvalde, Texas	29.28	743.7	30.12	765.0	47	8.3	70	N	2	0.9	.....	1c	0	NW	.....	0	0	Clear	
Vicksburg, Mississippi	29.96	761.0	30.23	767.8	53	11.7	86	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Virginia City, Montana	24.25	615.9	29.73	755.1	42	5.6	50	SW	32	14.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.85	758.2	30.25	768.3	31	— 0.6	89	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.20	767.1	30.32	770.1	27	— 2.8	88	NW	3	1.3	.....	10cs	Fog	Calm	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.20	767.1	30.28	769.1	43	6.1	83	N	9	4.0	.....	5ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.93	658.6	30.29	769.4	31	— 0.6	69	SW	10	4.5	.....	0	1s	.....	Calm	0	0	Clear	
Wood's Holl, Massachusetts	30.27	768.8	30.31	769.9	42	5.6	74	SE	12	5.4	.....	.....	8ks	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.66	728.0	30.02	762.5	26	— 3.3	52	SW	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.95	760.7	30.10	764.5	55	12.8	28	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.93	760.2	29.98	761.5	75	23.9	69	NE	2.4	1.1	.....	0	2ks	.....	NE	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.01	762.2	30.02	762.5	76	24.4	95	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I	29.74	755.4	29.82	757.4	76	24.4	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	77	25.0	91	E	.....	.....	2	6k	8ks	E	.....	0.100	2.54	Cloudy	C. J. Hering.
Santiago de Cuba, W I	29.85	758.2	29.88	758.9	76	24.4	81	NNW	3.0	1.6	.....	4cs	4s	.....	N	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.02	762.5	30.08	764.0	—31.0	—35.0	.....	N	14	6.3	.....	0	0	.....	.....	0.10	2.5	Clear	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.8 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,828 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,276 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.22‡	767.6‡	.....	.....	60	15.6	77	NE	17	7.6	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair.	
Navy Yard, Portsmouth, N.H.	30.14‡	765.6‡	.....	.....	23	— 5.0	86	SW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.03‡	762.7‡	.....	.....	34	1.1	53	N	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, Mare I'd., Navy Yard, Cal.	30.32‡	770.1‡	.....	.....	52	11.1	86	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Alaska, S. 21° 09′, W. 70° 12′	29.90‡	759.4‡	.....	.....	69	20.6	80	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Colorado, New York, N. Y.	30.26‡	768.6‡	.....	.....	31	— 0.6	100	NNW	0.5	0.2	.....	10ck	.....	.....	.....	0	0	.....	.....	Hazy	
Constitution, Fredericksted, Santa Cruz, W. I.	29.84‡	757.9‡	.....	.....	78	25.6	82	ESE	.....	.....	2	.....	7	.....	E	.....	.....	.....	.....	Cloudy	
Enterprise. Piraeus, Greece	30.07‡	763.8‡	.....	.....	52	11.1	66	S	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.35‡	770.9‡	.....	.....	45	7.2	84	NNW	8.4	3.8	.....	.....	10	.....	NNE	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.23‡	767.8‡	.....	.....	45	7.2	100	SE	3.6	1.6	.....	.....	1	.....	SE	0	0	.....	.....	Clear	
Kearsarge, Key West, Fla	30.08‡	764.0‡	.....	.....	72	22.2	85	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Lackawana, N. 26° 16′, W. 157° 10′	30.23‡	767.8‡	.....	.....	71	21.7	100	E	.....	.....	2-5	.....	8	.....	E	.....	.....	Mod'ate	E	Fair	
Marion, N. 19° 52′, W. 34° 47′	29.85‡	758.2‡	.....	.....	78	25.6	91	ENE	.....	.....	5	.....	10	.....	E	Mod'ate	Mod'ate	Smooth	E	Raining	
Michigan. Erie, Pa.	30.23‡	767.8‡	.....	.....	36	2.2	61	NNE	.....	.....	2	.....	10	.....	NNE	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China.	30.45‡	773.4‡	.....	.....	41	5.0	82	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.26‡	768.6‡	.....	.....	49	9.4	85	NNE	.7	3.1	.....	.....	10	.....	NNE	0	0	.....	.....	Cloudy	
Nipsic, N. 18° 12′, W. 64° 55′	29.94‡	760.5‡	.....	.....	78	25.6	82	ESE	.....	.....	1	.....	2	.....	ESE	.....	.....	.....	.....	D. clouds	
Onward, Callao, Peru	29.89‡	759.2‡	.....	.....	69	20.6	90	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'ate	W	Cloudy	
Palos, Tientsin, China	30.40‡	772.1‡	.....	.....	30	- 1.1	100	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.	30.30‡	769.6‡	.....	.....	28	— 2.2	88	NE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.86‡	758.4‡	.....	.....	70	21.1	85	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.32‡	770.1‡	.....	.....	35	1.7	80	NNW	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Quinnebaug, Villafranca, France	29.87‡	758.7‡	.....	.....	57	13.9	100	E	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Fair	
Ranger, N. 26° 45′, W. 155° 15′	30.19‡	766.8‡	.....	.....	70	21.1	75	ENE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Fair	
Richmond, Hong-Kong, China	30.20‡	767.1‡	.....	.....	61	16.1	82	E	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.24‡	768.1‡	.....	.....	65	18.3	100	SE	2	0.9	.....	2	5	Calm	SE	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.33‡	770.4‡	.....	.....	33	0.6	100	S	.....	.....	1	.....	8	.....	W	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	29.86‡	758.4‡	.....	.....	70	21.1	70	WSW	.....	.....	4	.....	10	.....	WSW	.....	.....	Mod at.	WSW	Cloudy	
St. Louis, League Island, Pa.	30.31‡	769.9‡	.....	.....	27	— 2.8	.....	N	7	3.1	.....	.....	8	.....	W	0	0	.....	.....	Cloudy	
Tennessee, Hampton Roads, Va.	30.34‡	770.6‡	.....	.....	42	5.6	91	NNW	2	0.9	..	.....	1	.....	.....	0	0	.....	.....	D. clouds	
Trenton. Villafranca, France	29.92‡	760.0‡	.....	.....	58	14.4	48	SW	.....	.....	3	.....	1	.....	.....	0	0	Smooth	.....	Blue sky	
Tuscarora, N. 13° 07′, W. 88° 35′	29.93‡	760.2‡	.....	.....	74	23.3	68	NNE	.....	.....	2-3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.34‡	770.6‡	.....	.....	35	1.7	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.33‡	770.4‡	.....	.....	28	— 2.2	77	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Foggy	
Wachusett, Montevideo, Uruguay.	30.20‡	767.1‡	.....	.....	68	20.0	79	NW	.....	.....	5	.....	2	.....	NW	.....	.....	.....	.....	Fair	
Wyoming, Toulon, France	29.92‡	760.0‡	.....	.....	49	9.4	93	W	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	W	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks, N. 47° 16′, W. 52° 40′		29.86‡	758.4‡				NNE			5				NNE	Slight	Mod'ate	NE	Cloudy	W. E. Jago.
S. S. Circassian.																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 45° 35′, W. 57° 11′		30 20‡	767.1‡	23	— 5.0		NNW			6		10		NNW		Mod'ate	NNW	Cloudy	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian.																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			
Philadelphia, Pa.....†		30.27‡	768.8‡	27	— 2.8	88	SW			1		1		S				Clear	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent																			
St. George's Channel, Eng		30.61‡	777.5‡	46	7.8		WNW			1		5		W	0	Light	S	Fair	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.																			
S. S. Braunschweig, C. Undutsch.																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer.																			S. Risius.
S. S. Ohio, G. Meyer, N. 43° 09′, W. 16° 00′		30.37‡	771.4‡				S			2		2		S		Smooth	SW	Fair	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, San Francisco, Cal....†		30.08‡	764.0‡	49	9.4	78	S			1		0						Clear	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China.....†		30.10‡	764.51	68	20.0		NE			3		ks			0	Smooth		D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			
S. S. Oregon																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander...																			
S. S. Idaho, E. Alexander...																			
S. S. Orizaba.																			
S. S. State of California, G. Debney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 31° 39′, E. 148° 10′ †‡		30 02‡	762.5‡	66	18.9	36	W			6		10			0	Heavy	NW	Overcast	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Zealandia, R. C. Ghest. N. 2° 40′, W. 163° 59′		29 82‡	757.4‡				ENE			4				E		Light	NE	Fine	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 38° 57′, W. 19° 20′ *§		30.28‡	769.1‡	66	18.9		NE			3		8		E		Smooth	E	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 29° 13′, W. 66° 30′ †§		30.27‡	768.8‡	70	21.1		ENE			5		8		E		Light	NE	Clearing	
Iron Cross, W. Randall																Rough			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 16, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.31	769.9				Calm			0		0			0	0	Clear	
Nemours			30.20	767.0	61.3	16.3	80	W			3		0			0	0	Clear	Kesxuche.
Algiers			30.17	766.4	59.0	15.0	53	WSW			7		10			0.087	2.2	Covered	Tourliere.
La Calle			30.04	763.0	50.5	10.3	60	WSW			5		8			0.264	6.7	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.03	762.7															Gau.
Saida			30.24	768.1															Herbin.
Tebessa			30.18	766.6	49.6	9.8	48	W			3		8			0	0	Very cloudy	Watrin.
Geriville								NW			2		0			Inap.	Inap.	Clear	Brugnlaux.
Laghouat			30.25	768.3	52.2	11.2	41	W			2		0			0	0	Clear	Bertrand.
Biskra			30.17	766.2	58.6	14.8	70	WNW			1		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.44	747.8	30.03	762.8	21.9	— 5.6	100	E			1		10			0	0	Dense fog	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.8	29.98	761.4	25.9	— 3.4	82	W	0	0			10			0.04	0.1		Dr. Wierzbicki.
Eperies	29.02	737.0	29.97	761.1	17.6	— 8.0	83	Calm			0		0			0	0		Julius Mikolik.
Gratz	28.71	729.2	30.03	762.7	27.7	— 2.4	56	SSW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.45	722.7	29.98	761.6	20.8	— 6.2	100	SE			1		10			0.022	0.55		Prof. A. Gottschling.
Kremsmünster	28.66	727.9	30.08	764.1	26.2	— 3.2	87	WNW			2		1			0.142	3.6		Prof. C. Wagner.
Lemberg	28.84	732.5	29.89	759.2	23.7	— 4.6	95	NW			1		2			0	0		Dr. T. Stanecki.
Pola	29.89	759.3	30.01	762.2	40.3	4.6	31	NW			1		0			0	0		I.R.Hydrographic Office
Szathmar	29.52	749.7	30.01	762.3	21.6	— 5.8	95	W			2		10			0.142	3.6		Pet. Pancsics, S. J.
Szegedin	29.69	754.0	29.98	761.5	31.6	— 0.2		Calm			0		10			0	0		Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	37.9	3.3	46	Calm			0		0			0	0	Clear	P. Busin.
Vienna	29.27	743.5			26.2	— 3.2		SW			2					0.063	1.6		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	29.84	757.9	30.05	763.3	32.7	0.4	86	WSW			1	3	9	N	SW	0	0		Royal Observatory
Furnes	30.04	762.0	30.07	763.6	37.0	2.8	84	NNW			2		7			0.012	0.3		M. E. de Cae.
Maeseyck	29.93	760.3	30.06	763.5	32.9	0.5	9	WSW			2		10			0.150	3.8	Snowing	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.00	762.0	30.10	764.5	38.8	3.8		ENE	25	11.2			3			0.020	0.51	Blue sky	W. Boswell.
Ardrossan	29.93	760.2	29.95	760.7	36	2.2		E			3		7					Snowing	G. Carrick.
Armagh, (Observatory)	29.75	755.6	30.00	762.0	41.5	5.3		WNW	4	1.8			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.93	760.2	43	6.1		W	18	8.0			10					Raining	John Hartnup.
Bolton (Sharples)	29.58	746.2	29.90	759.4	38.6	3.7		NNW					10					Foggy	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.92	760.0	39.7	4.3	76	SE			1		10			0.03	0.8	Misty	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.92	760.0	75	23.9		NE			1		9					Blue sky	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.89	759.2	29.99	761.7	36.0	3.3		SW			1		10					Raining	H. Todd.
Cardington			29.96	761.0	38.6	3.7		SW			0–1		10					Raining	John McLaren.
Chatham (School M. E.)	29.93	760.2	30.07	763.8	38.2	3.4		SW			0		10n					Light rain	W. Gibson, Sapper, R.E.
Donaghadee	29.91	759.7	29.95	760.7	44	6.7		N			5		8					D. clouds	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	36	2.2		W			2		9					Gloomy	J. Costello.
Falmouth (Observatory)	29.93	760.2	30.16	766.1	44.5	6.9		WSW			3		10					Overcast	The Staff.
Fort Napier, Natal	27.39	695.7	29.60	751.8	95.2	35.1		NW			1		0					Blue sky	Corp'l H. Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.00	762.0	46	7.8		N			1		10			0.02	0.5	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.77	756.1	30.07	763.8	35.9	2.2		NE			6		10			Blank	Blank	Gloomy	D. G. Maclean.
Great Yarmouth	30.01	762.2	30.02	762.5	31	— 0.6		WSW			1		8					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.84	757.9	30.02	762.5	37.9	3.3		SW			1		10					Raining	The Staff, for G.B. Airy.
Guernsey	29.92	760.0	30.15	765.8	43.5	6.4		WNW			3		8					Raining	Thos. S.E Hoskins, F.R.S.
Helston	30.51	774.9	30.63	778.0	44	6.7		NW			2		8k			0	0	Fair	M. P. Moyle.
Holyhead	29.91	759.7	29.98	761.5	44	6.7		WNW			6		10					Raining	John Tilston.
Jersey	29.88	758.9	30.18	766.6	45.0	7.2		W			4		8					Gloomy	J. Fisher.
Kew (Observatory)	29.99	761.7	30.03	762.7	38.4	3.6		SW	10	4.5			10					Raining	The Met'g'l Office.
Leicester (Museum)	29.69	754.1	29.96	760.7	37.6	3.1		SW			3		10					Raining	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	62.4	11.3		W			3		6k			Blank	Blank	D. clouds	A. King.
Nairn	30.04	763.0	30.14	765.5	34	1.1		SE			2		10					Overcast	W. D. Penny.
Nassau, Bahamas			29.99	761.7	73.0	22.8		NE			1		8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.75	755.6	29.95	760.7	39.8	4.3		Calm			0		10n			0.181	4.60	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.42	747.3	29.96	761.0	40.1	4.5		SW			1–2		10					Rain & fog	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)																			H. E. Bellamy.
Plymouth	30.06	763.5	30.13	765.3	42.3	5.7		WNW			2		10					Misty	John Merrifield.
*Roche's Point	30.02	762.5	30.10	764.5	47	8.3		W			4		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.90	759.4	30.06	763.5	46	7.8		W			5		10					Overcast	John C. Walker.
Sandwick Manse, Orkneys			30.19	766.8	35.1	1.7		ENE	8	3.6			0			Blank	Blank	Blue sky	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.81	757.2	29.88	758.9	40.4	4.7		SE			2		8			Blan	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.68	753.9	29.97	761 2	42.2	5.7		SW			1		10			0.01	0.3	Misty	W. F. Cooper.
Silloth Rectory	29.90	759.4	29.92	760.0	35.6	2.0	94	E			3		10			0.207	5.26	Overcast	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			29.92	760.0	35.9	2.2		N	3	1.3			10					Foggy	Rev. S. J. Perry.
Stratfield, Turgiss					37.3	2.9		W			2		10					Overcast	Rev. C.H. Griffith, F.M.S.
Truro (Royal Institution)	30.08	764.0	30.16	766.1	47	8.3		NW			6		6					D. clouds	W. Newcombe.
Valencia (Observatory)	30.12	765.0	30.14	765.5	46.1	7.8		W	14	6.3			10					Raining	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.99	761.7	30.03	762.7	67.6	19.7	73	SW	6	2.7		9c	9ks			0	0	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.40	645.2			91	32.8		WNW				1c	3ks						Robert Burnet.
Constable, Cape Colony	26.72	678.7			67	19.4		W					2						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.24	768	59.0	15		SE			Slight		Slight			0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.78	756.4	29.97	761.2	80.0	26.7	63	E	20.0	8.9		1	6		ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.75	755.6	29.84	757.9	64.0	17.8	82	SSW	10	4.5			2			0	0	Fine	J. Youngclause
Monach Lt-house, Hebrides			30.14	765.5	42	5.6		NE			4		10			0	0		
North Unst, Shetland Is			30.12	765.0				NE			6	3	7	N		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Barque Belle-Isle, N. 49° 45′, W. 4° 55′			30.15	765.8	47	8.3		W			4		6			2	WSW	D. clouds	Capt. A. J. Brown
City of Agra, S. 51° 20′, W. 142° 20′			29.45‡	748.0‡	46.8	8.2		W			6		6			7		Drizzling	Capt. Thos. Young.
City of Cashmere, S. 55° 26′, W. 78° 40′			29.48‡	748.5‡	46.2	7.9		SSW			2		6					D. clouds	Capt. W. M. Grieve
Barque Commewyne, N. 35° 10′, W. 46° 45′			29 92‡	760.0‡	58.7	14.8		NW			6		6					D. clouds	Capt. Jas. Buchan.
S. S. Decapolis, N. 48° 58′, W. 10° 14′			30.23‡	767.8‡	49.8	9.9		S			4		5					Misty	Capt. T. M. Almond.
Barque Dochra, S. 29° 59′ W. 123° 58′			30.19‡	766.8‡	77.5	25.3		E			4		5					D. clouds	Capt. N. Spalding.
Barque Fedalina, N. 46° 35′, W. 22° 10′			29.91	759.7	60	15.6		E			5		8			3	SSW	D. clouds	Capt. H. L. Fox.
Bgte Fylde, N. 44° 25′, W. 6° 35′			30.28	769.1	50	10.0		ENE			4		3			3	NNE	D. clouds	Capt. L. C. Dart.
S. S. German, Mossel Bay, Cape Colony			29.83‡	757.7‡	70	21.1		SW			7		3					D clouds	Capt. O. D. Coxwell
S. S. Richmond, Off Bird Rock Light, Bahama Islands			29.93	760.2	78	25.6		E			2		5			6	E	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 10° 23′, E. 87° 25′			29.90‡	759.4‡	79.9	26.6		NNE			4		2					Blue sky	Capt. W. P. Hughes.
S. S. Strathleven, N. 32° 00′, E. 30° 35′			30.02‡	762.5‡	59.5	5.3		NW			4		3					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S Ethiopia																			Capt. A. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	58.1	14.5	89	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Federico Maison.
.....																			
.....																			

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.65	758.2	29.90	759.4	27.0	— 2.8	59	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	.....
Fanöe	29.94	760.4	29.96	760.9	30.0	— 1.1	73	N	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.19	766.7	30.23	767.8	38.1	3.4	93	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	30.26	768.5	30.29	769.4	30.2	— 1.0	78	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	.....	.....
Vestervig	29.84	757.8	29.95	760.6	30.4	— 0.9	63	NW	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.62	752.4	30.17	766.4	41.0	5	93	NW	.....	.....	1	5ck	.....	N	NW	0.008	0.2	Cloudy	Collignon, Director.
Amiens, Normal School	30.00	762.0	30.11	764.9	38.5	3.6	73	WNW	.....	.....	1	.....	2	.....	Calm	0	0	Slightly cl'dy	Vaillant, Director.
Arras, Engin'r School	29.85	758.1	30.12	765.0	34.7	1.5	79	W	.....	.....	2	.....	u	.....	N	0.	0	.....	Klein, Commandant.
Avignon, Normal School	30.00	762.0	30.08	764.0	39.2	4	44	N	.....	.....	6	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.56	750.7	30.14	765.6	31.8	— 0.1	89	SSW	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Covered	C. Saillard, Director.
Beauvais, Normal School	29.82	757.4	30.10	764.5	37.8	3.2	78	NW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.26	743.1	30.24	768.1	32.4	0.2	.....	NE	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	A. Carré, Director.
Bordeaux	30.11	764.7	30.30	769.7	40.5	4.7	66	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.33	744.9	30.23	767.9	31.3	— 0.4	89	W	.....	.....	1	.....	5cu	N	.....	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.62	752.4	30.21	767.2	30.9	— 0.6	95	W	.....	.....	1	.....	1	.....	NW	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.99	761.8	30.24	768.0	47.5	8.6	83	S	.....	.....	1	.....	10	.....	SSW	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.05	763.3	30.13	765.2	44.2	6.8	83	W	.....	.....	2	.....	10	.....	W	0.071	1.8	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.77	756.1	30.20	767.0	41.4	5.2	23	WNW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.81	757.1	30.15	765.7	30.6	— 0.8	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.48	748.8	30.08	763.9	35.6	2	82	NW	.....	.....	2	.....	10	.....	.....	0.008	0.2	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.78	730.9	30.21	767.3	31.1	— 0.5	80	NE	.....	.....	1	.....	8	.....	WNW	0	0	.....	Alluard, Director.
Clermont, Normal School	29.21	741.8	30.11	764.7	30.4	— 0.9	.....	WSW	.....	.....	1	.....	10	WSW	WSW	0	0	Foggy	Dr. Coullet, Director.
Commune de Gréasque*	28.85	732.9	30.00	761.9	38.8	3.8	44	NW	.....	.....	2	.....	5	.....	SW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.22	742.2	30.09	763.4	23.7	— 4.6	.....	SSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.05	763.2	30.27	768.9	42.8	6.0	70	NW	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.87	758.8	30.20	767.0	38.3	3.5	87	W	.....	.....	2	.....	8	.....	WNW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.20	741.7	30.15	765.8	31.8	— 0.1	78	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	A. Baudry, Director
Lorient, Naval Observatory	30.16	766.1	30.27	768.9	43.2	6.2	82	W	.....	.....	1	.....	.....	.....	W	0	0	.....	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.57	751.0	30.24	768.0	25.7	— 3.5	73	E	.....	.....	1	1ck	.....	.....	.....	0.010	0.25	Misty	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.70	754.4	29.98	761.4	41.5	5.3	40	NW	.....	.....	2	.....	5	.....	E	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.03	737.3	30.13	765.3	32.0	0	96	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Barbier, Director.
Mont-Louis	24.74	628.4	30.06	763.4	25.7	— 3.5	78	N	13.0	5.8	.....	.....	4	.....	E	0	0	.....	M. Cave
Nice	29.94	760.4	29.97	761.2	48.2	9.0	46	E	.....	.....	4	.....	10	E	E	0	0	Covered	M. Bolssière, Director.
Nismes, Normal School	29.80	759.2	30.10	764.5	41.5	5.3	71	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.83	757.7	.....	.....	36.0	2.2	95	N	.....	.....	1	.....	10	.....	N	0.039	1.0	.....	Marié Davy, Director
Perpignan	30.02	762.5	30.18	765.4	39.4	4.1	47	NE	24.2	10.8	.....	.....	3	NW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.38	568.3	.....	.....	14.0	—10.0	.....	.....	.....	.....	.....	.....	.....	.....	NNW	0	0	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.02	737.1	30.14	765.5	33.8	1	.....	NW	.....	.....	1	.....	1	NW	NW	0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	25.06	636.4	.....	.....	16.2	— 8.8	97	WNW	.....	.....	4	.....	.....	.....	.....	0.051	1.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.30	769.5	30.33	770.3	39.6	4.2	82	SSE	.....	.....	3	.....	10	SSE	SSE	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	30.03	762.8	30.12	765.0	38.5	3.6	93	NNE	.....	.....	1	.....	10	.....	.....	0.016	0.4	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.15	765.8	30.18	766.5	45.7	7.6	69	WSW	.....	.....	3	.....	1	NW	NW	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.96	760.9	30.12	765.1	35.8	2.1	96	SW	.....	.....	1	.....	10	.....	NW	0.039	1.0	.....	E. Renou, Director.
Tarbes, Normal School	29.09	738.9	30.23	767.8	33.8	1	81	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.56	750.8	30.29	769.3	35.1	1.7	56	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Julher Mercadier.
Tours	29.97	761.3	30.17	766.3	38.8	3.8	90	W	.....	.....	1	.....	10	.....	NNW	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	29.90	751.9	30.10	764.4	34.9	1.6	100	NW	.....	.....	1	.....	10	.....	.....	0.171	4.35	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.48	748.8	30.23	767.8	36.0	2.2	93	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.87	22.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.43	772.9	30.45	773.5	39.7	4.3	95	N	8.6	1.6	.....	.....	10	.....	.....	0.205	5.2	Covered	Marc Dechevrens.
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local ti ne. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 305.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.11	739.5	29.98	761.4	28.4	— 2.0	81	W			4		10			0.157	4.0	Snowing	Prof. Dr. Hoh.
Berlin	29.79	756.6	29.97	761.3	28.9	— 1.7	86	S			2		10			0.020	0.5	Snowing	Prof. Dr. Arndt.
Breslau	29.44	747.7	29.97	761.2	26.1	— 3.3	85	W			3		8					Snow-flakes	Royal University Obs'y.
Carlsruhe	29.66	753.3	30.10	764.6	33.1	0.6	82	SW			2		8	SW		0.043	1.1		Albert Senz.
Cassel	29.35	745.6	29.96	761.0	33.1	0.6	88	NW			2		10			0.076	1.90	Snowing	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.73	755.2	30.11	764.7	35.2	1.8	61	WSW			3		7			0.004	0.1		Physical Society.
Friedrichshafen	28.65	727.7	30.16	766.0	31.3	— 0.4	68	W			5		5	W		0.213	5.4		Chief Telegrapher Wilhelm.
Hamburg	29.88	758.9	29.95	760.7	27.1	— 2.7	89	NW			3		8			0.154	3.9		Dr. Reinhold Kleeman.
Kiel	29.92	760.0	29.94	760.4	29.7	— 1.3	55	NW			1		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.69	754.1	29.78	756.3	25.2	— 3.8	83	NW			5		10			0.283	7.2	Snowing	Prof. E. Luther.
Köslin			29.87	758.8	25.7	— 3.5		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.54	750.3	29.98	761.5	30.6	— 0.8	81	SW			1		7	WNW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.72	754.8	29.94	760.5	32.4	0.2	78	W			3		10ks	W		0.043	1.1		Dr. Assmann.
Memel	29.69	754.1	29.74	755.3	21.9	— 5.6	100	NNW			4		6ks						Reinbrecht & Issermann.
Munich (München)	28.20	716.2	30.06	763.5	27.1	— 2.7	66	W			4		3			0.083	2.1		Dr. C. Lang.
Neufahrwasser	29.84	757.9	29.85	758.3	24.8	— 4.0	77	W			2		4			0.114	2.9		A. Lothes.
Neustadt (Palatinate)	29.54	750.2	30.07	763.6	31.8	— 0.1		W			1		10			0	0		Reallehrer Dicknether.
Posen	29.65	753.0	29.95	760.8	27.0	— 2.8	81	W			6		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.58	751.4	30.16	766.1	32.0	0.0	70	S			3		3			0	0		Imp. University Observatory.
Stuttgart	29.11	739.4	30.10	764.5	32.5	0.3	70	W					3	W		0.024	0.6		Prof. Dr. Schoder.
Thorn	29.76	755.9	29.95	760.7	27.3	— 2.6	72	W			2		3			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.62	724.5	30.10	764.6	27.3	— 2.6	89	W	3.1	1.4			10		W	0.088	2.1	Light snow.	Reallehrer J. Hopfner
Wustrow	29.91	759.7	29.93	760.3	29.1	— 1.6	100	NW			3		10ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.8	29.84	757.9	52.2	11.2		S			2.0		5					⅛ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.88	759.0	29.94	760.4	73.8	23.2	34	N	16	7.2			2	N		0	0	D. clouds	
Deesa	29.46	748.2	29.93	760.3	82.2	27.9	30	W	6.4	2.9			0			0	0	Blue sky	
Bombay	29.87	758.8	29.91	759.8	76.8	24.9	79	NW	12	5.4			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.1	29.87	758.7	86.0	30.0	23	NW	5	2.2			0			0	0	Blue sky	
Belgaum	27.39	695.6	29.92	759.8	79.2	26.2	32	WSW	7	3.1			0			0	0	Blue sky	
Lahore	29.13	739.8	29.90	759.6	58.6	14.8	43	Calm	1.0	0.4			0			0	0	Blue sky	
Roorkee	28.92	734.7	29.86	758.4	61.8	16.6	53	Calm	2.6	1.2			2			0	0	Blue sky	
Agra	29.28	743.8	29.86	758.4	72.7	22.6	43	NE	2.6	1.2			2		NE	0	0		
Nagpur	28.84	732.5	29.89	759.2	77.7	25.4	35	Calm	2.3	1.0			0			0	0	Blue sky	
Jubbulpore	28.51	724.0	29.89	759.2	73.8	23.2	32	Calm	2.3	1.0			4			0	0	D. clouds	
Lucknow	29.48	748.8	29.87	758.6	68.7	20.4	43	NW	0.1	0.05			7	NW		0	0	D. clouds	
Allahabad	29.55	750.5	29.87	758.7	64.6	18.1	65	Calm	1.1	0.5			1			0	0	D. clouds	
Patna	29.71	754.5	29.89	759.3	67.0	19.4	56	Calm	0.3	0.1			0			0	0	Blue sky	
Hazaribagh	27.82	706.6	29.88	758.9	66.8	19.3	32	N	6.6	3.0			2			0	0		
Cuttack	29.84	758.0	29.93	760.2	75.4	24.1	53	WSW	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.87	758.7	29.89	759.3	69.7	20.9	59	SSW	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.52	749.8	29.93	760.1	59.7	15.4	92	NNE	5.4	2.4			1			0.10	2.5	D. clouds	
Chittagong	29.84	758.0	29.94	760.4	67.8	19.9	70	Calm	3.3	1.5			0			0	0	Misty	
Sibsagar	29.59	751.7	29.94	760.6	63.0	17.2	86	NE	1.4	0.6			10	W	W	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.61	752.1	30.05	763.2	34.7	1.5	73	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.50	749.3	30.05	763.3	23.0	— 5.0	93	SSW	.....	.....	.....	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.93	760.3	30.05	763.3	28.6	— 1.9	73	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.0	30.03	762.8	27.0	— 2.8	69	E	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.80	757.0	30.00	762.1	43.7	6.5	28	NE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.2	30.07	763.6	31.3	— 0.4	39	N	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.99	761.7	30.04	763.0	35.1	1.7	69	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.75	755.6	30.02	762 5	41.9	5.5	18	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.7	30.00	762.0	41.9	5.5	39	ENE	8.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.75	755.6	29.93	760.3	46.4	8.0	25	N	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.60	751.8	29.87	758 6	47.3	8.5	52	NW	25.5	11.4	.....	.....	4	NW	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.00	736.6	29.93	760.1	45.7	7.6	70	SW	0.7	0.3	.....	.....	7	.....	.....	0.071	1.8	.....	Prof. D. Conti.
Cagliari	29.74	755.3	29.86	758.5	48.7	9.3	51	NW	.....	.....	2	.....	9	N	.....	0.012	0.3	.....	Prof. A. Pacinotti.
Palermo	29.69	754.2	29.95	760.8	51.6	10.9	63	NW	8.1	3.6	.....	.....	9	.....	.....	0.709	18.0	.....	Prof. G. Ciacciatore.
Syracuse	29.84	757.8	29.88	758.9	58.1	14.5	55	WNW	7.4	3.3	.....	.....	5	WNW	.....	0.217	5.6	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.39	746.5	29.93	760.1	46.4	8.0	46	NE	1.8	0.8	.....	.....	2	.....	.....	0.114	2.9	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.30	769.6	30.31	769.9	33.7	0.9	85	NNE	8.1	3.6	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.16	766.0	30.37	771.4	42.2	5.7	62	NE	6.6	2.9	.....	0	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.10	764.5	30.17	766.3	30.2	— 1.0	66	N	3.3	1.5	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.22	767.6	30.27	768.8	33.6	0.9	84	NW	3.8	1.7	.....	0	1s	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	25.08	637.0	30.23	767.8	46.0	7.8	55	SE	.....	.....	1	8ks	0	.....	.....	0	0	Cloudy	R. Banda, C. E.
Guadalajara	24.47	621.5	30.31	769.9	48.0	8.9	88	N	.....	.....	1	2c	0	SE	.....	0	0	Clear.	Prof. L. Perez.
Leon	29.74	755.3	29.98	761.4	61.9	16.6	98	E	.....	.....	1	6cs	0	SW	.....	0	0	Fair	F. Quijano, C. E.
Mazatlan	23.08	586.3	30.34	770.5	39.2	4.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Mexico, Central Observatory	24.14	613.2	.....	.....	58.3	14.6	64	N	.....	.....	4	6c	8k	SE	S	0	0	Cloudy	M. Fena, M. D.
Morelia	24.98	609.0	30.08	764.1	46.9	8.8	73	Calm	.....	.....	0	2cs	0	SW	.....	0	0	Clear	M. V. de Leon, M. E.
Pabellon (Aguascalientes)	28.57	598.6	30.70	779.7	33.8	1.0	50	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
Puebla (Catholic Institute)	24.22	615.1	30.43	772.9	40.8	4.9	59	SE	.....	.....	1	4	0	W	.....	0	0	Hazy	G. Barroeta, M. D.
San Luis Potosi	30.07	763.7	30.08	764.0	67.8	19.9	95	SW	.....	.....	2	1	5	E	SW	0	0	Cloudy	Prof. M. M. Chazaro.
Tlaxcalapam	30.08	764.1	30.11	764.8	69.8	21.0	86	Calm	0	0	.....	3k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Vera-Cruz	22.58	573.4	30.31	769.8	48.2	9.0	70	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	J. C. Castrillon
Zacatecas																			

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.05	763.2	30.05	763.2	36.0	2.2	.....	W	.....	.....	3	.....	.....	.....	.....	0.043	1.1	.....	
Groningen	29.93	760.3	29.99	761.7	31.8	— 0.1	.....	E	.....	.....	.....	.....	.....	.....	.....	0.035	0.9	.....	
Helder	29.98	761.6	29.98	761 6	30.1	2 3	.....	WNW	.....	.....	0	.....	.....	.....	.....	0.146	3.7	.....	
Hellevoetsluis	30.02	762.5	30.02	762.5	35.1	1.7	93	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.97	761.2	30.02	762.5	38.5	3.6	85	WSW	.....	.....	2	.....	5	.....	.....	0.118	3.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.95	760.7	30.00	762.1	30.2	— 1.0	80	Calm	0	0			3			0	0		
Brönö	29.83	757.6	29.87	758.6	24.8	— 4.0	62	Calm	0	0			6			0	0		
Christiana	29.76	756.0	29.92	760.0	18.7	— 7.4	89	NW	0	0			4			0	0	Light fog..	
Tromsö	29.85	758.1	29.89	759.2	17.6	— 8.0	71	N	4	2			0			0.012	0.3		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.19	741.5	30.23	767.8	47.1	8.4	83	W	3.1	1.4			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.13	765.4	30.23	767.7	63.2	19.0	59	SE	3.1	1.4			8			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.89	759.3	30.26	768.6	56.1	13.4	83	WSW	6.3	2.8			9	WNW		0	0		The Staff.
Ponta Delgada (Azores)	29.80	757.0	29.87	758.8	63.8	17.4	80	SW	18.1	8.1			3			0.224	5.7		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. d Silva Costa, Com'd'r.
D. Fernando																			A. e Sande, Com'd'r.
Duque da Terceira																			J. C. M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd'r.
Rio Lima. Capt. S. C. da Silva Costa. N. 19° 04', W. 19° 14'					74.1	23.4		E			2		2		ENE	1	E	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira																			F. Teixeira da Silva, Comd'r.
Sado. Capt. J. A de Brito Capello. Mossamedes, Lower Guinea			29.90	759.5	74.5	23 5		WNW			3		2		W	2	NW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.28	769.0	56.3	13.5		N			3		8		N	1	N	D. clouds	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.42	747.2	29.44	747.7	— 6.2	—21.2	85	SE	4	2			10						Capt. Sselliwerstow.
Astrakhan	30.25	768.3	30.17	766.2	28.2	— 2.1	73	ESE	11	5			8ks						Capt. Wisganow.
Barnaul	29.35	760.7	30.52	775.2	— 4.5	—20.3	92	NE	0	0			10					Light clouds	Meteorological Obs.
Dorpat	29.40	746.7	29.65	753.2	18.1	— 7.7	89	W	2	1			10n					Light snow..	Prof. Dr. Weihrauch.
Ekaterinburg	29.26	743.3	30.34	770.6	1.0	—17.2	90	SSE	4	2		4c,ck							Meteorological Obs.
Irkutsk																			
Kasan	29.68	753.9	29.97	761.1	26.1	— 3.3	98	S	16	7		10							Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.18	741.1	29.86	758.4	17.6	— 8.0	93	W	7	3		4cks						Light clouds	Physical Cabinet.
Krotskowo*	29.72	751.8	30.23	767.7	23.2	— 4.9	82	S	13	6		10							Cand. Faijanow.
Lugan	2.71	754.7	29.93	760.1	27.3	— 2.6	74	S	9	4		10							Meteorological Obs.
Moscow	29.15	740.3	29.73	755.1	19.4	— 7.0	70	SW	7.8	3.5		10s							Meteorological Obs.
Nertchinsk	28.27	718.0	31.05	788.6	—30.3	—34.6	80	Calm	0	0		0							Meteorological Obs.
Nikolaiev	29.90	759.4	29.97	761.2	16.9	— 8.4	82	Calm	0	0		7cs							Meteorological Obs.
Nukuss	30.07	763.8	30.33	770.3	13.6	—10.2	97	ENE	13	6		9ks							Kurdakof.
Orenberg																			
Pekin (China)	30.49	774.5	30.63	778.1	21.7	— 5.7	87	SW	4	2		3cs							Physical Observatory.
St. Petersburg	29.57	751.1	29.79	751.5	13.6	—10.2	97	NNW	2	1		10n						Snowing	Central Physical Obs.
Tashkend	28.67	728.3	30.38	771.7	19.0	— 7.2	90	N	4	2		0							Teich, A. M.
Tiflis	28.58	726.0	30.07	763.8	32.0	0.0	37	NW	13	6		3s							Physical Observatory.
Vladivostock																			
Warsaw	29.45	747.9	29.89	759.3	20.5	— 6.4	84	W	11	5		1ks							Astronomical Obs.
Wilna	29.29	744.0	29.74	755.3	20.1	— 6.6	82	W	4	2		10							Astronomical Obs.
Yeniseisk	30.72	780.2	31.07	789.1	—33.0	—36.1	77	Calm	0	0		0							Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.01	762.2	30.12	765.0	43.2	6.2	70	SE	1.4	0.64			6			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.25	768.3	30.31	769.8	41.7	5.4	82	SE	0.4	0.18			10			0.134	3.4	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	690.8			29.8	— 1.2	94	W	2.9	1.31		0	0			0	0	Foggy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.91	709.0	30.23	767.7	42.1	5.6	73	SW	4.5	2.00		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.97	761.3	30.13	765.2	55.6	13.1	54	NW	2.7	1.19		0	2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.6	30.19	766.9	48.2	9.0	68	NE	0	0		6	0			0.102	2.6	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.95	760.7	30.02	762.4	74.1	23.4	78	NNE	11.4	5.1		2c	9k;ks		NE	0.020	0.5	Cloudy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.89	759.3	29.95	760.8	79.1	26.2	86	SE	0.4	0.2			4ck			0	0	Slightlycld'y	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.0	30.27	768.6	52.7	11.5	68	WNW	3.3	1.5		5	0	SW		0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	758.9	29.97	761.2	75.9	24.4	84	SE	0	0		3cs	3k	SE	SE	0	0	Clear	Enrique Gades, Chief Engr.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.71	754.6	29.75	755.6	6.8	—14.0		N			2		7			0	0		
Umea	29.75	755.7	29.80	757.0	13.6	—10.2	87	N			2		9			0	0		
Hernosand	29.76	756.0	29.82	757 3	19.8	— 6.8	84	NNW			2		9			0	0		
Stockholm	29.66	753.3	29.84	757.8	20.8	— 6.2	79	NW			2		9			0.020	0.5		
Wisby	29.67	753.5	29.72	755.0	27.0	— 2.8	74	E			6		7			0.024	0.6		
Sub-Series.																			
Upsala	29.70	754.3	29.78	756.5	15.6	— 9.1	66	NW	0	0			4		N	0.028	0.70		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.69	728.8	30.19	766.8	31.3	- 0.4	66	SE			1		9			0	0	Covered	The Observatory.
Zurich	28.69	728.8	30.42	772.7	29.1	— 1.6	65	W			1		6			0.134	3.4	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1 2 mm.; Thermometer, —1 8 Cents; Relative Humidity, —13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.96	760.9	40.3	4.6	65	ESE	9	4.0			8		SW	0	0		The Observatory.
Fao, Persian Gulf																			
Valona			29.82	757.3	44.8	7.1		NE			1		5			0.20	5.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			29.98	761.6	48.0	8.9	87	S			5		9n		SW	1.00	25.4		Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.38	771.6	30.39	771.9	- 8.5	—22.5		NW	4	1.8						0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.39	771.9	30.47	773.9	— 0.9	—21.6	92	W	1	0.4		0	0			0.01	0.3	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.35	770.9	30.39	771.9	10.4	—12.0	100	Calm	0	0			10s			0.01	0.3	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.06	763.5	17.0	— 8.3	93	E			1		9s			Inap.	Inap.	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.22	767.6	30.41	772.4	— 4.0	—20.0		SW	1	0.4		1cs	0			0	0	Clear	H. A. Johnson.
Father Point, Quebec	30.26	768.6	30.29	769.4	— 2.9	—19.4	83	SW	5.0	2.2		7cs	0			0.08	2.0	Cloudy	J. McWilliams.
Fredericton, N. B	30.37	771.4	30.44	773.2	— 6.7	—21.5	100	Calm	0	0			Haze			0.13	0.8	Hazy	Prof. Harrison.
Fort Garry, Manitoba	28.91	734.3	29.80	756.9	10.5	-11.9	90	SW	4	1.8			10n			0.06	1.5	Cloudy	James Stewart.
Granton, Ontario	28.81	731.8	29.95	760.7	36	2.2		SW			1		10n			0	0	Cloudy	James Grant.
Halifax, N. S	30.24	768.1	30.38	771.6	23.3	— 4.8	96	N	6	2.7			10n			0.02	0.5	Cloudy	A. Allison.
Hamilton, Ontario	29.63	752.6	30.01	762.2	39.3	4.1	82	NW			1	10cs	0	NW		0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.72	754.9	30.07	763.8	32.6	0.3	95	S	20	8.9		10cs	0			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.32	770.1	30.36	771.1	24.0	— 4.4	91	SE	4	1.8			10			0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.93	760.2	30.15	765.8	11.8	—11.2	88	SE	12	5.4			10n			0.04	1.0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.65	753.1	29.69	754.1	16.2	— 8.8	93	SW			2		10			0.30	7.6	Cloudy	J. R. Nrson.
Norwood	29.26	743.2	29.98	761.5	33.0	0.6	86	SW	2	0.9			10s			0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.14	740.1	29.86	758.4	35.0	1.7	90	S	18	8.0		2k	7n	SW	SW	0.03	0.8	Cloudy	Rev. R. Mosley.
Peterboro; Ontario	29.24	742.7	30.01	762.2	35.7	2.1	77	S			2		10n			0	0	Cloudy	J. F. Joffers, M. A.
Port Dover, Ontario	29.31	744.5	30.03	762.7	37.0	2.8	90	SW	17	7.6		10k	0	SW		0	0	Cloudy	H. Morgan.
Port Stanley, Ontario	29.37	746.0	30.04	763.0	35.2	1.8	88	SW	17	7.6			10n			0	0	Cloudy	M. Payne.
Quebec, Quebec	29.91	759.7	30.26	768.6	12.0	—11.1	80	NE			6	2k	5s			0.05	1.3	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario																			W. H. McIntyre.
St. John, N. B	30.20	767.1	30.28	769.1	15	— 0.4	100	NW	5	2.2		0	0			0.07	1.8	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.15	740.4	29.88	758.9	37.0	2.8	81	SW	24	10.7			10n			0	0	Overcast	Miss K. Stewart.
Stratford, Ontario	28.63	727.2	29.94	760.5	35.0	1.7	90	SE	19.0	3.5			10s			0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.30	769.6	30.34	770.6	25.3	— 3.7	86	NW	1	0.4		8k	0	NW		0.01	0.3	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.61	752.1	30.00	762.0	36.2	2 3	90	SW	17	7.6			10n			0	0	Cloudy	Magnetic Observatory
Windsor, N. S	30.26	768.6	30.36	771.1	18.5	— 7.5	92	NE	5	2.2		0	1s			0	0	Clear	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.87	733.3	29.97	761.2	36.8	2.7	93	S	27	12.1			10s		SW	0	0	Overcast	Professor Wolverton.
Yarmouth, N. S	30.28	769.1	30.34	770.6	25.0	— 3.9	79	E	4	1.8		0	0			0.03	0.8	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.89	759.2	30 16	766.1	25	— 3.9		NE					10			Blank	Blank	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.12	765.0	26.5	— 3.6		NW			2								The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1 015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction: Upper. From—	Clouds. Direction: Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.07	763.8	30.33	770.4	16	— 8.9	83	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.14	740.1	29.50	756.9	34	1.1	79	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.08	738.6	30.28	769.1	38	3.3	90	NE	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Atlantic City, New Jersey	30.28	769.1	30.29	769.4	31	— 0.6	100	N	3	1.3	.....	Haze	Fog	Calm	Calm	0.01	0.3	Hazy	
Augusta, Georgia	30.11	764.8	30.32	770.1	49	9.4	71	Calm	0	0	.....	0	5s	.....	NE	0	0	Fair	
Baltimore, Maryland	30.29	769.4	30.34	770.6	31	— 0.6	69	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Barnegat, New Jersey	30.25	768.3	30.28	769.1	34	1.1	100	NW	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Bismarck, Dakota	27.79	705.8	29.65	753.1	36	2.2	80	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.61	726.7	29.96	761.0	42	5.6	33	SW	3	1.3	.....	2c	0	Calm	.....	0	0	Clear.	
Boise City, Idaho	27.36	694.9	30.32	770.1	36	2.2	71	SE	4	1.8	.....	0	8s	.....	Calm	0	0	Fair	
Boston, Massachusetts	30.16	766.1	30.32	770.1	29	— 1.7	78	NW	5	2.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Brackettville, Texas	28.88	733.5	29.96	761 0	48	8.9	85	E	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Breckenridge, Minnesota	28.82	732.0	29.85	758.2	28	— 2.2	100	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.03	762.7	30.07	763.8	63	17.2	94	Calm	0	0	.....	.....	Fog	.....	Calm	1.40	35.6	Foggy	
Buffalo, New York	29.30	744.2	30.02	762.5	37	2.8	81	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.89	759.2	30.19	766.8	26	— 3.3	88	S	9	4.0	.....	2ck	5s	W	W	Inap.	Inap.	Fair	
Cairo, Illinois	29.76	755.9	30.17	766.3	43	6.1	83	Calm	0	0	.....	0	8s	.....	SW	0	0	Fair	
Campo, California	29.45	697.2	30.02	762.5	43	6.1	75	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.25	768.3	30.26	768.6	45	7.2	92	NE	12	5.4	.....	2cs	Haze	Calm	.....	0.15	3.8	Hazy	
Cape Henry, Virginia	30.27	768.8	30.28	769.1	39	3.9	82	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Cape Lookout, N. Carolina	30.24	768 1	30.25	768.3	44	6.7	92	NE	20	8.9	.....	2cs	2ks	NE	NE	0	0	Fair	
Cape May, New Jersey	30.26	768.6	30.29	769.4	32	0.0	90	N	3	1.3	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	
Castroville, Texas	29.28	743.7	30.01	762.2	47	8.3	85	NW	4	1.8	.....	2c	0	.....	.....	0	0	Fair	
Cedar Keys, Florida	30.16	766.1	30.18	766.6	55	12.8	93	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Charleston, South Carolina	30.20	767.1	30.25	768.3	46	7.8	84	N	6	2.2	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.44	747.8	30.30	769.6	34	— 1.1	79	N	5	2.2	.....	0	Sm'e	.....	Calm	0.01	0.3	Clear	
Chattanooga, Tennessee	29.44	747.8	30.29	769.4	36	2.2	90	E	2	0.9	.....	.....	Fog	.....	Calm	0	0	Clear.	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	39	3.9	25	W	20	8.9	.....	0	0	.....	.....	0	0	Dense fog	
Chicago, Illinois	29.22	742.2	29.92	760.0	41	5.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.50	749.3	30.16	766.1	43	6.1	79	S	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.32	744.7	30.07	763.8	39	3.9	82	SE	16	7.2	.....	2k	8ks;8	W	W;Calm.	0	0	Cloudy	
Coleman City, Texas	28.20	716.3	29.91	759.7	40	4.4	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.27	743.4	30.13	765.3	37	2.8	81	S	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Concho, Texas	28.11	714.0	29.85	758.2	35	1.7	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.60	751.8	30.08	764.0	50	10.0	86	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.24	742.7	29.88	758.9	37	2.8	71	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	43	6.1	75	SW	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.19	639.8	.....	.....	38	3.3	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.23	742.4	30.04	763.0	44	6.7	84	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.71	627.6	29.93	760.2	48	8.9	23	NW	27	12.1	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.90	734.0	29.80	756.9	37	2.8	71	SW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.28	743.7	29.97	761.2	36	2.2	90	SW	9	4.0	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Dodge City, Kansas	27.25	692.1	29.60	751.8	20	— 1.7	34	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.16	740.7	29.87	758.7	35	1.7	89	S	6	2.7	.....	1c	1s	SW	S	0	0	Fair	
Duluth, Minnesota	29.04	737.6	29.73	755.1	32	— 0.0	79	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Eagle Pass, Texas	29.22	742.2	29.96	761.0	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.27	768.8	30.34	770.6	26	— 3.3	75	NE	14	6.3	.....	5c	8s	E	N	Inap.	Inap.	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	95	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.33	745.0	30.06	763.5	41	5.0	74	S	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Escanaba, Michigan	29.14	740.1	29.81	757.2	30	— 1.1	68	SW	5	2.2	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Florence, Arizona	28.52	724.4	30.12	765.0	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.58	700.5	29.42	747.3	32	0.0	89	W	5	2.2	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort Custer, Montana	26.67	677.4	.....	.....	37	2.8	62	W	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.20	640.1	30.16	766.1	46	7.8	77	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.44	747.8	29.99	761.7	45	7.2	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	40	4.4	41	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.71	729.2	30.03	762.7	37	2.8	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.08	687.8	.....	.....	33	0.6	69	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.74	704.6	29.70	754.4	41	5.0	82	W	5	2.2	.....	1c	0	W	.....	0.05	1.3	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.89	759.2	37	2.8	90	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.80	706.1	.....	.....	34	1.1	100	SW	4	1.8	.....	.....	10n	.....	SW	0.05	1.3	Light rain	
Fort Verde, Arizona	.....	.....	.....	.....	28	— 2.2	77	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.21	716.5	29.75	755.8	57	13.9	81	S	1	0.4	.....	8cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.08	764.0	30.12	765.0	65	18.3	94	SE	5	2.2	.....	.....	10ks	.....	SW	0.13	3.3	Cloudy	
Graham, Texas	28.92	734.6	30.01	762.2	37	2.8	90	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear.	
Grand Haven, Michigan	29.25	742.9	29.91	759.7	42	5.6	74	SW	6	2.7	.....	0	5s	.....	SW	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.05	737.9	30.02	762.5	38	3.3	91	S	6	2.7	.....	2c	0	Calm	.....	0	0	Fair	
Indianapolis, Indiana	29.26	743.2	30.05	763.3	40	4.4	91	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	30.07	763 8	30.10	764.6	67	19.4	95	SE	7	3.1	.....	0	8s	.....	SE	0	0	Fair	
Jacksboro, Texas	28.81	731.8	29.95	760.7	45	7.2	61	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.17	766.3	30.20	767.1	53	11.7	86	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.25	742.9	29.87	758.7	40	4.4	82	SW	11	4.9	.....	0	1s	.....	Calm	0	0	Clear.	
Key West, Florida	30.02	762.5	30.05	763.3	70	21.1	90	SE	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.27	768.8	30.29	769.4	44	6.7	84	NE	23	10.3	.....	0	8s	.....	NE	0	0	Fair	
Knoxville, Tennessee	29.27	743.4	30.34	770.6	30.5	— 0.8	89	E	3	1.3	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
La Crosse, Wisconsin	29.02	737.1	29.76	755.9	40	4.4	56	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	31	0.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.70	754.4	30.04	763.0	60	15.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.00	736.6	29.86	758.4	39	3.9	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.76	755.9	30.13	765.3	45	7.2	92	Calm	0	0	.....	2k	Haze	SW	Calm	0	0	Fair	
Los Angeles, California	29.66	753.4	30.01	762.2	48.0	8.9	56	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.56	750.8	30.13	765 3	44	6.7	84	SE	3	1.3	.....	5k	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.43	752.6	30.35	770.9	32	— 0.0	79	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Madison, Wisconsin	28.80	731.5	29.80	756.9	37	2.8	81	S	8	3.6	.....	8cs	0	Calm	.....	0	0	Cloudy	
Marquette, Michigan	29.05	739.9	29.76	755.9	32	0.0	79	N	8	3.6	.....	.....	10s	.....	NW	0.07	1.8	Cloudy	
Mason, Texas	28.40	721.3	30.21	767.3	42	5.6	84	NW	3	1.3	.....	2cs	0	NW	.....	0	0	Fair	
Memphis, Tennessee	29.80	756.9	30.14	765.5	50	10.0	86	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.10	739.1	29.84	757.9	39	3.9	73	SW	10	4.5	.....	0	5s	.....	Calm	0	0	Fair.	
Mobile, Alabama	30.17	766.3	30.21	767.3	55	11.7	89	E	3	1.3	.....	0	8s	.....	W	0	0	Fair.	
Montgomery, Alabama	30.03	762.7	30.28	769.1	44	6.7	92	SE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Morgantown, West Virginia	29.19	741.4	30.22	767.6	35	1.7	80	Calm	0	0	.....	0	Fog	.....	Calm	0.02	0.5	Light fog.	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	19	— 7.2	69	W	24	10.7	.....	5c	8ks	Calm	W	0	0	Fair.	
Nashville, Tennessee	29.68	753.9	30.23	767.8	45	7.2	84	Calm	0	0	.....	0	8ks	.....	SE	0	0	Fair.	
New Haven, Connecticut	30.17	766.3	30.30	769.6	27	— 2.8	88	NE	6	2.7	.....	5cs	2s	NE	NE	Inap.	Inap.	Cloudy	
New London, Connecticut	30.25	768.3	30.30	769.6	31	— 0.6	79	N	5	2.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	59	15.0	94	E	4	1.8	.....	0	Vapsm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	30.24	768.1	30.29	769.4	34	1.1	90	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.12	765 0	30.30	769.6	33	0.6	100	N	1	0.4	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Norfolk, Virginia	30.25	768.3	30.31	769.9	38	3.3	91	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	26.90	683.2	29.49	749.0	36	2.2	49	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	30.08	764.0	30.12	765.0	30.5	4.2	91	S	3	1.3	.....	.....	10s	.....	Calm	0.84	21.3	Cloudy	
Omaha, Nebraska	28.60	726.4	29.71	754.6	30	2.2	71	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.79	756.7	30.13	765.3	33	0.6	70	S	8	3.6	.....	8cs	0	SW	.....	0	0	Fair	
Pembina, Dakota	28.80	731.5	29.68	753.9	10	—12.2	100	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Pensacola, Florida	30.21	767.3	30.25	768.3	55	12.8	81	NE	6	2.7	.....	4k	4s	SW	SW	0.02	0.5	Fair	
Philadelphia, Pennsylvania	30.26	768.6	30.31	769.9	31	— 0.6	89	N	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Phœnix, Arizona	28.89	733.8	30.76	781.3	41	5.0	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.65	448.3	29.86	758.4	11	—11.7	.....	NW	36	16.1	.....	2cs	0	Calm	.....	0	0	Clear.	
Pilot Point, Texas	29.26	743.2	30.11	764.8	45	6.1	75	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	.....	.....	.....	.....	30	— 1.1	68	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.35	745.5	30.19	766.8	37	2.8	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.27	743.4	29.95	760.7	36	2.2	80	S	15	6.7	.....	.....	10s	.....	W	0	0	Cloudy	
Portland, Maine	30.29	769.4	30.34	770.6	25	— 3.9	62	NW	4	1.8	.....	2k	8s	W	Calm	0	0	Cloudy	
Portland, Oregon	30.14	765.5	30.21	767.3	48	8.9	93	SE	9	4.0	.....	.....	10s	.....	.....	0.16	3.8	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	47	8.3	85	NE	21	9.4	.....	2cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.83	630.7	30.19	766.8	24	— 4.4	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	60	15.6	88	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.86	758.4	30.24	768.1	45	7.2	61	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.87	758.7	30.09	764.3	63	17.2	94	E	.....	.....	1	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Rochester, New York	29.41	747.0	30.04	763.0	35	1.7	80	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.75	755.6	30.35	770.9	35	1.7	95	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Sacramento, California	30.09	764.3	30.17	766.3	39	3.9	91	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	30.04	763.0	36	2.2	90	S	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Paul, Minnesota	28.87	733.3	29.71	754.6	33	0.6	79	SE	1	0.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Salt Lake City, Utah	25.78	654.8	30.11	764.8	30	— 1.1	47	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.40	746.7	29.99	761.7	50	10.0	86	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.94	760.5	30.02	762.5	47	8.3	62	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.37	746.0	30.06	763.5	40	4.4	73	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.28	769.1	30.31	769.9	33	0.6	89	NE	6	2.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
San Francisco, California	30.10	764.5	30.16	766.1	49	9.4	78	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	28.27	591.0	29.81	757.2	16	— 8.9	33	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.17	766.3	30.26	768.6	46	7.8	84	...	5	2.2	.....	1ck	1s	SW	Calm	0	0	Clear	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	55	12.8	87	Calm	0	0	.....	.....	Fog	.....	Calm	0.06	1.5	Foggy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.22	767.6	30.26	768.6	41	5.0	91	N	10	4.5	.....	0	1ks	.....	.....	0	0	Clear.	
Socorro, New Mexico	25.49	647.4	29.55	750.6	27	— 2.8	64	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.32	744.7	30.01	762.2	40	4.4	78	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.18	766.6	30.32	770.1	19	— 7.2	69	Calm	0	0	.....	.....	0	.....	.....	Inap.	Inap.	Clear.	
Stockton, Texas	27.12	688.8	30.12	765.0	42	5.6	42	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.23	767.8	30.29	769.4	40	4.4	100	E	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Toledo, Ohio	29.31	744.5	30.01	762.2	38	3.3	72	NE	14	6.3	.....	5c	0	NW	.....	0	0	Fair	
Tucson, Arizona	27.56	700.0	30.11	764.8	40	4.4	56	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Umatilla, Oregon	29.82	757.4	30.33	770.4	41	5.0	82	SW	16	7.2	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.17	740.9	30.01	762.2	46	7.8	84	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	
Vicksburg, Mississippi	29.93	760.2	30.19	766.8	54	12.2	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Virginia City, Montana	24.18	614.2	29.66	753.4	34	1.1	61	SW	22	9.8	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.76	755.9	30.14	765.5	35	1.7	90	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.19	766.8	30.31	769.9	28	— 2.2	100	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	61	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.19	766.8	30.27	768.8	46	4.4	82	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.86	656.8	30.22	767.6	33	0.6	70	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.23	767.8	30.27	768.8	38	3.3	81	N	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.38	720.8	29.69	754.1	31	— 0.6	69	W	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Yuma, Arizona	29.88	758 9	30.03	762.7	58	14.4	27	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.93	760.2	29.98	761.5	76	24.4	76	NE	4.8	2.1	.....	4cs	4ks	Calm	NE	0.03	0.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.05	763.3	30.06	763.5	76	24.4	95	Calm	0	0	.....	0	2cs	.....	.....	0	0	Fair	James Gall.
Navassa, W. I	29.72	754.9	29.80	756.9	78.5	25.1	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.90	759.4	76	24.4	91	E	.....	.....	3	.....	10n	.....	.....	0.670	17.02	Raining	C. J. Hering.
Santiago de Cuba, W. I	29.91	759.7	29.93	760.2	75	23.9	85	N	1.2	0.5	.....	0	4ks	.....	S	Blank	Blank	.....	Robert Mason
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.91	759.7	29.96	761.0	—42.0	—41.1	.....	N	17	7.6	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,017.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft. or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in.; or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.22‡	767.6‡	.....	.....	60	15.6	88	NE	8	3.6	.....	.....	2	.....	SW	.....	.....	.....	.....	Fair.	
Navy Yard, Portsmouth, N.H.	30.14‡	765.5‡	.....	.....	25	— 3.9	81	N	1	0.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, S. 22° 11′, W. 70° 17′	.....*	29.86‡	758.4‡	.....	.....	69	20.6	85	ESE	.....	.....	2	.....	2	.....	NW	.....	.....	Mod'ate	SW	Hazy.
Colorado, New York, N. Y.		30.24‡	768.1‡	.....	.....	31	— 0.6	100	W	2	0.9	.....	.....	10	.....	SW	0	0	.....	.....	Misty.
Constitution, Fredericksted, Santa Cruz, W. I.		29.98‡	761.5‡	.....	.....	76	24.4	91	E	.....	.....	2	.....	6	.....	SE	.....	.....	.....	.....	Fair.
Enterprise. Piraeus, Greece		29.88‡	758.9‡	.....	.....	54	12.2	74	SSW	.....	.....	3	.....	6	.....	WSW	.....	.....	Smooth	.....	Cloudy.
Franklin, Off Navy Yard, Norfolk, Va.		30.34‡	770.6‡	.....	.....	40	4.4	100	NNE	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.
Independence, Mare I'd, Navy Yard, Cal.		30.17‡	766.3‡	.....	.....	44	6.7	92	ESE	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.
Kearsarge, Key West, Fla.		30.05‡	763.3‡	.....	.....	72	22.2	90	NNE	.....	.....	5	.....	2	.....	N	.....	.....	Smooth	.....	Fair.
Lackawana, N. 28° 10′, W. 158° 55′	.....†	30.27‡	768.8‡	.....	.....	70	21.1	97	ENE	.....	.....	3	.....	2	.....	N	.....	.....	Long	E	Fair.
Marion, N. 0° 05′, W. 35° 03′		29.89‡	759.2‡	.....	.....	81	27.2	79	ESE	.....	.....	3	.....	5	.....	ESE	0	0	Mod'ate	ESE	Fair.
Michigan, Erie, Pa.		30.02‡	762.5‡	.....	.....	43	6.1	56	SW	.....	.....	4	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.
Monocacy, Shanghai, China.		30.41‡	772.4‡	.....	.....	41	5.0	91	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.
New Hampshire, Port Royal, S. C.		30.33‡	770.4‡	.....	.....	49	9.4	85	NNW	15	6.7	.....	.....	1	.....	Calm	0	0	.....	.....	Clear.
Nipsic, N. 16° 16′, W. 64° 56′	....	29.94‡	760.5‡	.....	.....	78	25.6	78	E	.....	.....	3	.....	8	.....	E	.....	.....	Mod'ate	E	D. clouds.
Onward, Callao, Peru	.....†	29.89‡	759.2‡	.....	.....	69	20.6	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Cloudy.
Palos, Tientsin, China.		30.56‡	776.2‡	.....	.....	22	— 5.6	100	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.
Passaic, Washington, D. C.		30.34‡	770.6‡	.....	.....	30	— 1.1	89	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Foggy.
Pensacola, Callao, Peru		29.87‡	758.7‡	.....	.....	68	20.0	95	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Foggy.
Powhatan, Navy Yard, Brooklyn, N.Y.		30.29‡	769.4‡	.....	.....	35	1.7	80	NNE	.....	.....	2	.....	8	.....	.....	0	0	.....	.....	Cloudy.
Quinnebaug, Leghorn, Italy		29.99‡	761.7‡	.....	.....	55	12.8	64	E	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Fair.
Ranger, N. 29° 20′, W. 153° 30′		30.24‡	768.1‡	.....	.....	68	20.0	84	ENE	.....	.....	4	.....	1	.....	NE	.....	.....	Mod'te	ENE	Clear.
Richmond, Hong-Kong, China.		30.18‡	766.6‡	.....	.....	63	17.2	72	N	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.
Rio Bravo, Brownsville, Texas	..... †	30.22‡	767.6‡	.....	.....	64	17.8	100	NW	1	0.4	.....	.....	0	.....	.....	1.22	31.1	.....	.....	Clear.
Santee, Annapolis, Md.		30.34‡	770.6‡	.....	.....	28	— 2.2	.....	SE	.....	.....	1	.....	Fog	.....	.....	0	0	.....	.....	Foggy.
Shenandoah, Montevideo, Uruguay		29.60‡	751.8‡	.....	.....	76	24.4	77	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.
St. Louis, League Island, Pa.		30.29‡	769.4‡	.....	.....	30	— 1.1	.....	NE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Foggy.
Tennessee, Hampton Roads, Va.		30.31‡	769.9‡	.....	.....	40	4.4	91	N	5	2.2	.....	.....	2	.....	NE	0	0	.....	.....	D. clouds.
Trenton, Villafranca, France.		29.98‡	761.5‡	.....	.....	53	11.7	48	E	.....	.....	3	.....	8	.....	.....	0	0	.....	.....	Cloudy.
Tuscarora, Tempa Shoals, S. Salvador.		29.95‡	760.7‡	.....	.....	76	24.4	56	N	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.
Vandalia. Boston, Mass.		30.26‡	768.6‡	.....	.....	29	— 1.7	89	N	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.
Wachusett, Montevideo, Uruguay.	†	30.23‡	767.8‡	.....	.....	74	23.3	76	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.
Wyoming, Toulon, France.		29.95‡	760.7‡	.....	.....	47	8.3	56	E	.....	.....	1–2	.....	5	.....	E	.....	.....	Smooth	E	Fair.

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 45° 07', W. 58° 24'		30.25‡	768.3‡				NNW			2				NNE	0	Smooth	NE	Fair	W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, Off St. Johns, N. F.		30.18‡	765.3‡	27	-- 2.8		NW			6		8		NW		Mod'ate	N	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, N. 51° 34', W. 17° 02'		30.31‡	769.9‡	51	10.6		WSW			3		8		NW	Light	Mod'ate	SSW	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer, N. 40° 52', W. 20° 29'		29.99‡	761.7‡				S			4		10		S		Long	SW	Light rain	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, San Francisco, Cal....†		30.00‡	762.0‡	49	9.4	78	NW			2		0						Clear	D. A. Joyce.
S. S. Gaelic, Davidson, Hong Kong, China....†		30.12‡	765.0‡	68	20.0		NE			2		ks			0	Smooth		D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels and Captains.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 32° 49′, E. 144° 56′ †‡		29 64‡	752.8‡	58	14.4	76	NW			6	5ck		NW		0	Heavy	NW	Squally	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 6° 59′, W. 162° 24′		29 84‡	757.9‡				E			4				N		Light	NW	Fine	
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetam.
S. S. Switzerland																			
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 39° 40′, W. 16° 25′ *§		30.40‡	772.1‡	63.5	17.5		E			2		0				Long	WSW	Fine	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 26° 40′, W. 66° 15′ †§		30.23‡	767 8‡	73	22.8		E			5		9		E	0	Long	SSE	Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

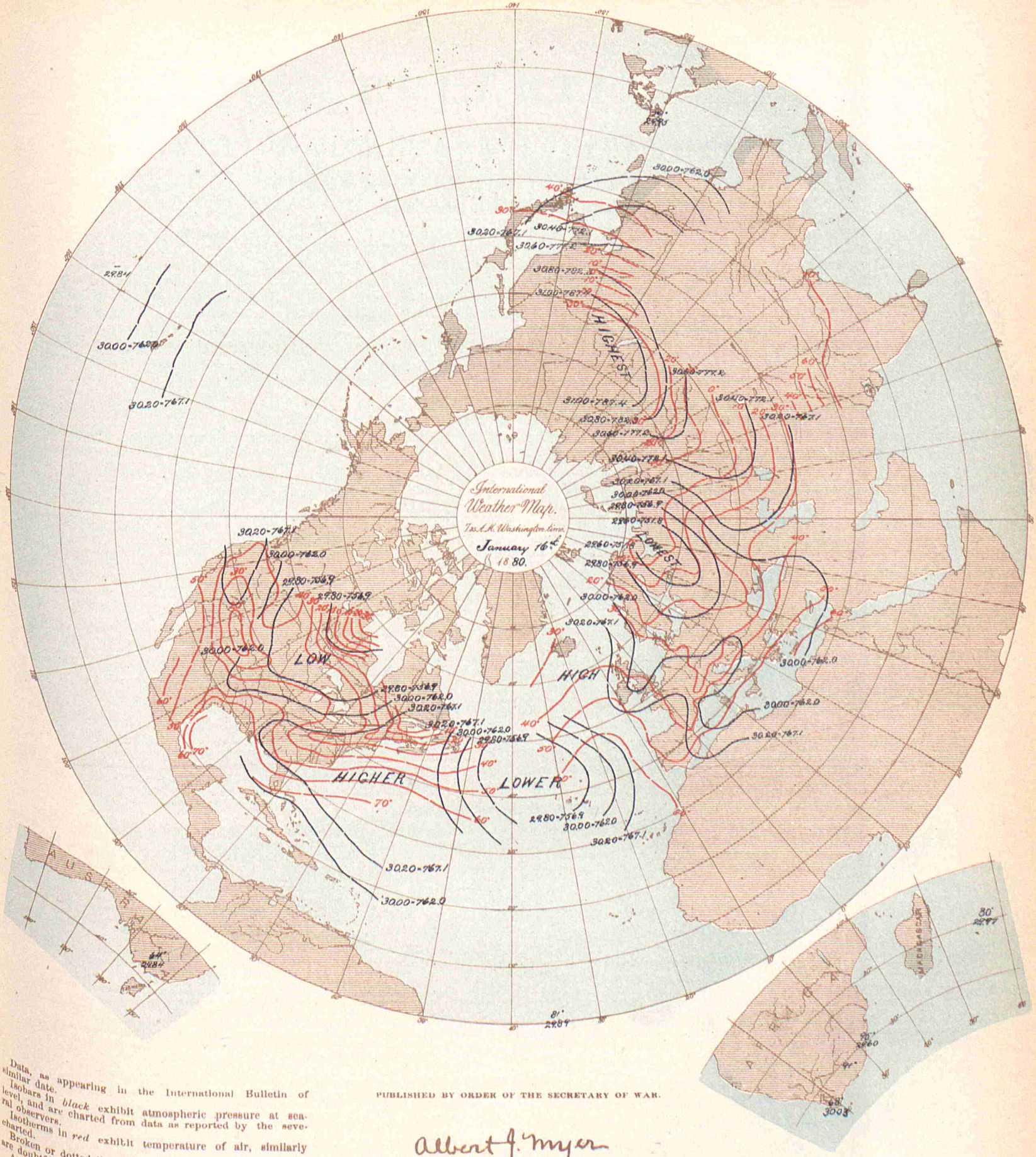
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.


International
Weather Map.
Tas. A. M. Washington Time.
January 16th
1880.
HIGHEST
LOWEST
HIGHER
LOWER
HIGH
LOW
3000-762.0
3020-767.1
2980-756.9
3040-772.4
3060-777.5
3080-782.6
3100-787.7
3120-792.8
2940-746.6
2960-751.8
2920-741.5
2900-736.3
2880-731.2
2860-726.0
2840-720.9
2820-715.7
2800-710.6
2780-705.4
2760-700.3
2740-695.1
2720-690.0
2700-684.8
2680-679.7
2660-674.5
2640-669.4
2620-664.2
2600-659.1
2580-653.9
2560-648.8
2540-643.6
2520-638.5
2500-633.3
2480-628.2
2460-623.0
2440-617.9
2420-612.7
2400-607.6
2380-602.4
2360-597.3
2340-592.1
2320-587.0
2300-581.8
2280-576.7
2260-571.5
2240-566.4
2220-561.2
2200-556.1
2180-550.9
2160-545.8
2140-540.6
2120-535.5
2100-530.3
2080-525.2
2060-520.0
2040-514.9
2020-509.7
2000-504.6
1980-499.4
1960-494.3
1940-489.1
1920-484.0
1900-478.8
1880-473.7
1860-468.5
1840-463.4
1820-458.2
1800-453.1
1780-447.9
1760-442.8
1740-437.6
1720-432.5
1700-427.3
1680-422.2
1660-417.0
1640-411.9
1620-406.7
1600-401.6
1580-396.4
1560-391.3
1540-386.1
1520-381.0
1500-375.8
1480-370.7
1460-365.5
1440-360.4
1420-355.2
1400-350.1
1380-344.9
1360-339.8
1340-334.6
1320-329.5
1300-324.3
1280-319.2
1260-314.0
1240-308.9
1220-303.7
1200-298.6
1180-293.4
1160-288.3
1140-283.1
1120-278.0
1100-272.8
1080-267.7
1060-262.5
1040-257.4
1020-252.2
1000-247.1
980-241.9
960-236.8
940-231.6
920-226.5
900-221.3
880-216.2
860-211.0
840-205.9
820-200.7
800-195.6
780-190.4
760-185.3
740-180.1
720-175.0
700-169.8
680-164.7
660-159.5
640-154.4
620-149.2
600-144.1
580-138.9
560-133.8
540-128.6
520-123.5
500-118.3
480-113.2
460-108.0
440-102.9
420-97.7
400-92.6
380-87.4
360-82.3
340-77.1
320-72.0
300-66.8
280-61.7
260-56.5
240-51.4
220-46.2
200-41.1
180-35.9
160-30.8
140-25.6
120-20.5
100-15.3
80-10.2
60-5.0
40-0.0
20+4.8
40+9.9
60+15.1
80+20.2
100+25.4
120+30.5
140+35.7
160+40.8
180+46.0
200+51.1
220+56.3
240+61.4
260+66.6
280+71.7
300+76.9
320+82.0
340+87.2
360+92.3
380+97.5
400+102.6
420+107.8
440+112.9
460+118.1
480+123.2
500+128.4
520+133.5
540+138.7
560+143.8
580+149.0
600+154.1
620+159.3
640+164.4
660+169.6
680+174.7
700+179.9
720+185.0
740+190.2
760+195.3
780+200.5
800+205.6

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 17, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:0 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:40 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.21	767.3	.....	.....	.....	W	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	
Nemours	.....	.....	30.16	766.1	61.7	16.5	69	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Kesxuche.
Algiers	.....	.....	30.15	765.9	53.6	12.0	67	W	.....	.....	3	.....	3	.....	.....	0.012	0.3	Pretty fair..	Tourillere.
La Calle	.....	.....	30.05	763.2	50.7	10.4	71	NW	.....	.....	7	.....	10	.....	.....	0.480	12.2	Covered.....	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.07	763.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.20	767.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	30.19	766.7	44.6	7.0	55	NNW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	.....	.....	.....	.....	.....	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.25	768.3	50.7	10.4	42	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Chanvaux.
	.....	.....	30.16	766.0	60.4	15.8	66	NNW	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.1	30.01	762.3	16.0	— 8.9	100	W	.....	.....	1	.....	10	.....	.....	0	0	Dense fog....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.04	737.6	29.86	758.5	23.4	— 4.8	90	W	7.8	3.5	.....	.....	10	.....	.....	0.039	1.0	.....	Dr. Wierzbicki.
Eperies	28.93	734.8	29.88	758.9	16.9	— 8.4	88	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.59	726.3	29.91	759.6	28.4	— 2.0	64	S	.....	.....	1	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.45	722.7	29.98	761.6	18.5	— 7.5	91	SSE	.....	.....	2	.....	0	.....	.....	0.016	0.40	.....	Prof. A. Gottschling.
Kremsmünster	28.49	723.6	29.90	759.5	27.3	— 2.6	94	WNW	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	Prof. C. Wagner.
Lemberg	28.81	731.7	29.86	758.4	21.2	— 6.0	98	S	.....	.....	1	.....	3	.....	.....	0.028	0.7	.....	Dr. T. Stanecki.
Pola	29.86	758.5	29.98	761.5	38.1	3.4	60	W	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.50	749.4	30.00	762.0	21.6	— 5.8	95	S	.....	.....	2	.....	10	.....	.....	0.031	0.8	.....	Pet. Pancsics, S. J.
Szegedin	29.60	753.3	29.95	760.8	26.6	— 3.0	83	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.88	759.0	29.98	761 6	37.0	2.8	67	Calm	.....	.....	1	.....	1	.....	.....	0	0	Clear.....	P. Busin.
Vienna	29.15	740.4	.....	.....	30.0	— 1.1	.....	W	.....	.....	2	.....	.....	.....	.....	0.122	3.1	.....	I.R.Central Met. Ob'sy.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	29.81	757.1	30.06	763.4	28.2	— 2.1	71	NNW	.....	.....	2	.....	10	.....	WNW	0	0	.....	M. E. de Cae.
Maeseyck	30.01	762.2	30.03	762.8	33.6	0.9	83	NNW	.....	.....	2	.....	3	.....	.....	0	0	.....	M. Pierrot.
	29.89	759.3	30.02	762.5	27.0	— 2.8	90	WSW	.....	.....	2	.....	10	.....	.....	0.043	1.1	Foggy.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:8 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.86	758.4	29.97	761.2	36.0	2.2		W	9	4.0			8			0.095	2.42	Overcast	W. Boswell.
Ardrossan	30.08	764.0	30.10	764.5	37	2.8		NNW			2		6					Snowing	G.Carrick.
Armagh, (Observatory)	29.94	760.5	30.19	766.8	35.4	1.9		NE	3	1.3			3					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.11	764.8	36.4	2.4		N	6	2.7			3					Blue sky	John Hartnup.
Bolton (Sharples)	29.52	749.8	30.05	763.3	35.3	1.8		ENE					5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.05	763.3	35.4	1.9	77	NW			1		6			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.86	758.4	29.89	759.2	79	26.1		NE			1		6					Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.96	761.0	30.06	763.5	41.6	5.0		NNW			1		1					D. clouds	H. Todd.
Cardington			30.03	762.7	36 6	2.6		N			0-1		3					D. clouds	John McLaren.
Chatham (School M. E.)	29.93	760.2	30.07	763.8	35.2	1.8		N			1		4k					D. clouds	W. Gibson, Sapper, R.E.
Donaghadee	30.09	764.3	30.13	765.3	40	4.4		N			1		3					D. clouds	J. Mac Gowan.
Dover	30.00	762.0	30.03	762.7	37	2.8		ENE			3		2					¾ clouded	J. Costello.
Falmouth (Observatory)	29.77	756.1	30.00	762.0	43.0	6.1		ENE			3		10					Raining	The Staff.
Fort Napier, Natal	27.70	703.6	29.92	760.0	66.6	19.2		E			1		10					Overcast	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.14	765.5	38	3.3		N			1		0			0.08	2.0	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.87	758.7	30.08	764.0	35.3	1.8		WSW			2		10			Blank	Blank	Overcast	D. G. Maclean.
Great Yarmouth	30.01	762.2	30.02	762.5	37	2.8		WNW			2		0					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.89	759.2	30.07	763.8	36.7	2.6		NE			1		4					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.79	756.7	30.02	762.5	45	7.2		NNW			1		10					Raining	Dr. S.E Hoskins, F.R.S.
Helston	30.12	765.0	30.22	767.6	44	6.7		E			2		6k			0.64	16.3	Fair	M. P. Moyle.
Holyhead	30.06	763.5	30.13	765.3	39	3.9		NNE			3		6					D. clouds	John Tilston.
Jersey	29.76	755.9	30.06	763.5	43.2	6.2		WSW			1		10					Showery	J. Fisher.
Kew (Observatory)	30.04	763.0	30.07	763.8	36.0	2.2		NNE	7	3.1			6					Misty	The Met'g'l Office.
Leicester (Museum)	29.79	756.7	30.06	763.5	35.5	1.9		N			1		5					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.83?	757.7?	29.91?	759.7?	52	11.1		NW			2		3k					Blue sky	A. King.
Nairn	29.84	757.9	29.93	760.2	37	2.8		W			2		10			Blank	Blank	Overcast	W. D. Penny.
Nassau, Bahamas			30.00	762.0	73.0	22.8		NE			1		4			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.87	758.7	30.07	763.8	34.7	1.5		NW			1	8k;ks;s			N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.74	750.3	30.08	764.0	36.0	2.2		N			1	8						D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.85	758.2	30.11	764.8	35	1.7		NE			1	6						D. clouds	H. E. Bellamy.
Plymouth	29.91	760.5	30.02	762.5	38.6	3.7		NE			2	10						Drizzling	John Merrifield.
*Roche's Point	30.02	762.5	30.09	764.3	41	5.0		NE			3	5						¾ cloudy	Wm. Kennedy.
St. Ann's Head	29.93	760.2	30.10	764.5	39	3.9		ENE			2	7						D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.80	756.9	42	5.6		NW	16	7.2		10						Raining	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.86	758.4	29.93	760.2	35.0	1.7		NNE			2	10						Light rain	Serg't W. H. Lyne.
Sheffield	29.80	756.9	30.09	764 3	37.9	3.3		N			1	9				0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.06	763.5	30.09	764.3	36.1	2.3	74	Calm			0	7				0.133	3.38	D. clouds	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			30.07	763.8	34.6	1.4		WSW	3	1.3		8						D. clouds	Rev. S. J. Perry.
Straifield, Turgiss					36.8	2.7		NE			2	8						D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.96	761.0	30.04	763.0	43	6.1		E			6	10						Raining	W. Newcombe.
Valencia (Observatory)	30.14	765.5	30.16	766.1	41.6	5.3		NE	19	8.5		5						Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.07	763.8	30.11	764.8	72.5	22.5	61	SSE	21	9.4		0	0			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.60	650.2			77	25.0		SE				0	0						Robert Burnet.
Constable, Cape Colony	26.74	679.2			66	18.9		SW				0							Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.28	769	69.9	15.5		SE			Slight		Slight			0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.75	755.6	29.94	760.5	80.7	27.1	62	SE	15.5	6.9		2	4	WNW	E	0.13	3.3	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	61.4	16.3	55	S	10	4.5			8			0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides			30.04	763.0	46	7.8		NW			4	3	5	N		0	0		
North Unst, Shetland Is.			29.91	759.7				NE			4		10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tully Bay, Patagonia			29.631‡	752.6‡	57.5	14.2		WSW			1		4					D. clouds	Capt. A. J. Brown
City of Agra, S. 51° 50′, W. 136° 50′			29.74‡	755.4‡	41	5.0		SSW			6		8					Squally	Capt. Thos. Young.
City of Cashmere, S. 55° 42′, W. 75° 15′			29.50‡	749.3‡	47	8.3		WNW			5		10					Drizzling	Capt. W. M. Grieve.
Barque Commewyne, N. 36° 00′, W. 43° 05′			29.92	760.0‡	57.3	14.1		NW			6		6					D. clouds	Capt. Jas. Buchan.
S. S. Decapolis, N. 49° 18′, W. 7° 24′			30.02‡	762.5‡	50.5	10.3		N			5		5					D. clouds	Capt. T. M. Almond.
Barque Dochra, S. 32° 59′ W. 123° 48′			30.18‡	766.6‡	76	24.4		NE			4		3					D. clouds	Capt. N. Spalding.
Barque Fedalma, N. 47° 30′, W. 21° 30′			29.75	755.6	59	15.0		E			6		10			5	SSW; ESE	Raining	Capt. H. L. Fox.
Bqte Fylde, N. 44° 35′, W. 9° 00′			30.07	763.8	55	12.8		ESE			3		10			4	NNW	Overcast	Capt. L. C. Dart.
S. S. German, Agoa Bay, Cape Colony			30.11‡	764.8‡	70	21.1		SSW			3		3					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, Off Bird Rock Light, Bahama Islands			29.95	760.7	76	24.4		NE			2		4			4	E	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 8° 20′, E. 87° 31′			29.88‡	758.9‡	80.8	27.1		NNE			4		7					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 33° 05′, E. 27° 15′			29.97‡	761.2‡	58.0	14.4		SW			6		7					D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	65.3	18.5	88	SE	.....	.....	2	.....	8s	.....	E	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.71	754.6	29.76	755.8	25.0	— 3.9	91	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	
Faröe	29.78	756.3	29.80	756.8	28.8	— 1.8	90	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.28	769.1	30.32	770.2	29.5	— 1.4	86	E	.....	.....	6	.....	0	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	30.00	762.1	30.04	763.0	30.7	— 0.7	81	N	.....	.....	2	.....	5	.....	.....	.....	.....	.....	
Vestervig	29.71	754.5	29.82	757.3	27.3	— 2.6	89	NE	.....	.....	2	.....	6	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.4	30.10	764.4	40.1	4.5	83	NW	.....	.....	1	.....	8	W	NW	0.004	0.1	Very cloudy	Collignon, Director.
Amiens, Normal School	29.94	760.5	30.06	763.5	36.7	2.6	86	WNW	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.77	756.1	30.04	762.9	31.6	— 0.2	97	N	.....	.....	1	.....	n	.....	.....	0.114	2.9	.....	Klein, Commandant.
Avignon, Normal School	30.03	762 8	30.11	764.8	44.2	6.8	48	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.44	747.7	30.02	762.6	34.2	1.2	95	W	.....	.....	1	.....	10	.....	.....	0.512	13.0	Rain & snow	C. Saillard, Director.
Beauvais, Normal School	29.77	756.1	30.05	763.2	36.0	2.2	91	NE	.....	.....	1	.....	10	.....	.....	0.217	5.50	Covered	Frère Eugene Marie.
Besançon, Normal School	29.12	739.6	30.05	763.3	33.8	1	.....	S	.....	.....	1	.....	10	.....	S	0	0	Covered	A. Carré, Director.
Bordeaux	29.95	760.6	30.14	765.6	41.2	5.1	53	SE	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.22	742.3	30.13	765.2	33.8	1	93	S	.....	.....	1	.....	10n	N	.....	.....	.....	Snowing	Marlot, Director.
Bourges, Normal School	29.51	749.5	30.08	764.0	37.9	3.3	97	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.81	757.2	30.06	763.4	46.8	8.2	83	SW	.....	.....	2	.....	8	.....	SW	0.020	0.50	.....	Ch. de Rermaree, Dir.
Caen, Normal School	29.95	760.7	30.02	762.6	41.2	5.1	94	WNW	.....	.....	1	.....	10	.....	WNW	0.091	2.3	Covered	M. Bietrix, Director.
Carcassonne, N. School	29.69	754.1	30.12	765.0	44.1	6.7	52	W	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.70	754.4	30.04	762.9	32.9	0.5	96	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.40	746.7	29.98	761.6	36.1	2.3	80	E	.....	.....	2	.....	10	.....	W	0	0	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.67	728.2	30.07	763.6	40.6	4.8	71	W	.....	.....	4	.....	8	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.10	739.0	30.00	761.9	30.6	— 0.8	86	WSW	.....	.....	1	.....	5kn	WSW	WSW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.90	734.0	30.04	763 0	42.8	6.0	44	NW	.....	.....	4	.....	2	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.35	745.4	30.16	766.1	28.0	— 2.2	.....	ESE	.....	.....	1	.....	10n	.....	.....	0.126	3.2	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.90	759.5	30.12	765.1	45.3	7.4	69	SW	.....	.....	1	.....	5	.....	WNW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.76	756.0	30.09	764.2	40.1	4.5	84	WNW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.2	30.06	763.5	32.9	0.5	97	SSW	.....	.....	1	.....	10	.....	.....	0.16	4.	Snowing	A. Baudry, Director
Lorient, Naval Observatory	29.99	761.8	30.10	764.6	47.1	8.4	70	SW	.....	.....	1	.....	.....	.....	SW	0	0	.....	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.45	748.1	30.11	764.7	32.0	0.0	89	ENE	.....	.....	1	.....	10	.....	.....	0.014	0.35	Heavy mist.	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.75	755.6	30.02	762.6	45.9	7.7	60	WNW	.....	.....	3	.....	1	.....	WNW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.86	733.1	29.97	761.1	33.4	0.8	89	NE	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing	Barbier, Director.
Mont-Louis	24.81	630.2	30.13	765.2	29.3	— 1.5	70	NE	7.4	3.3	.....	.....	3	.....	N	0	0	.....	M. Cave
Nismes, Normal School	29.91	759.7	29.94	760.5	47.5	8.6	57	W	.....	.....	2	.....	1	W	W	0	0	Clear	M. Boissière, Director.
Paris, Montsouris Obs'y	29.87	758.6	30.08	763.9	48.0	8.9	69	NW	.....	.....	1	2c	.....	NW	.....	0	0	.....	M. Boyer, Director.
Perpignan	29.74	755.4	.....	.....	37.9	3.3	95	NNW	.....	.....	1	.....	10	.....	.....	0.173	4.4	.....	Marié Davy, Director.
Pic du Midi (Plantade) H. P.	30.02	762.5	30.13	765.4	46.0	7.8	44	NW	3.8	1.7	.....	.....	6	NW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Summit) H. P.	22.80	568.6	.....	.....	23.7	— 4.6	.....	.....	.....	.....	.....	.....	.....	.....	NNW	0	0	.....	Gen'l de Nansouty
Privas, Normal School																			M. Baylac.
Puy de Dome (Summ') Obs	28.95	735.4	30.09	764.2	38.8	3.8	93	N	.....	.....	1	.....	1	N	N	0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.03	635.7	.....	.....	23.7	— 4.6	100	WNW	.....	.....	6	.....	.....	.....	.....	0.602	15.3	Foggy	Alluard, Director.
Rouen, Normal School	30.10	766.8	30.22	767.6	43.2	6.2	82	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Saint Malo (Port) Obs'y	29.94	760.5	30.03	762.7	39.4	4.1	87	NNE	.....	.....	1	.....	10	.....	.....	0.236	6.5	Covered	Frère Lucard, Director
Saint Maur (near Paris)	29.99	761.8	30.03	762.7	46.6	8.1	75	WSW	.....	.....	3	.....	5	SW	SW	0	0	Cloudy	Lt. Hercouet, Director
Tarbes, Normal School	29.87	758.6	30.03	762.8	37.0	2.8	96	N	.....	.....	1	.....	10	.....	.....	0.193	4.9	Covered	E. Renou, Director.
Toulouse, Observatory	29.06	738.0	30.17	766.2	44.6	7	18	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Tours	29.47	748.4	30.19	766.9	37.8	3.2	63	NE	.....	.....	1	.....	2	NW	.....	0	0	Slightly cl'y	M. Juher Mercadier.
Versailles, Observatory	29.86	758.4	30.06	763.4	42.1	5.6	81	SW	.....	.....	1	.....	10	.....	NW	0	0	Covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.50	749.4	30.00	761.9	36.7	2.6	100	NW	.....	.....	1	.....	10	.....	.....	0.080	2.02	Covered	Dr. A. Berigny, Director
SUB-SERIES.	29.36	745.7	30.10	764.4	40.1	4.5	95	ESE	.....	.....	1	.....	5	.....	NW	0.04	1.	Cloudy	Nicot, Director.
Fort de France, Martinique	29.88	759.0	29.91	759.7	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	8.	.....	L'Abbé Marchést
Zi-Ka-Wei (near Shanghai	30.47	774.0	30.50	774.6	41.4	5.2	82	NE	2.2	1.0	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 306.41 m., or 1,032.97 ft.; Mont-Louis. 1,686.40 m., or 5,534.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.04	737.6	29.90	759.5	21.9	— 5.6	75	E			4		2s			0.016	0.4		Prof. Dr. Hoh.
Berlin	29.67	753.7	29.86	758.4	25.5	— 3.6	91	SW			1		10			0.043	1.1	Snowing	Prof. Dr. Arndt.
Breslau	29.33	744.9	29.85	758.3	22.5	— 5.3	85	WNW			3		10			0.030	0.77	Snowing	Royal University Obs'y.
Carlsruhe	29.51	749.6	29.96	760.9	32.0	0.0	92	SW			1		10	SW		0.031	0.8		Albert Senz.
Cassel	29.32	744.8	29.93	760.2	13.3	—10.4	87	N			2		2	N		0.056	1.43	Snowing	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.68	753.8	30.06	763.4	28.4	— 2.0	43	NE			2		0			0.008	0.2		Physical Society.
Friedrichshafen	28.49	723.6	29.99	761.7	31.3	— 0.4	78	SW			2		10			0.059	1.5	Snowing	Chief Telegrapher Wilhelm.
Hamburg	29.72	754.8	29.79	756.6	28.8	— 1.8	94	W			3		10			0.177	4.5	Foggy	Dr. Reinhold Kloeman.
Kiel	29.73	755.2	29.75	755.6	31.3	— 0.4	98	N			1		10			0.080	2.03	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.66	753.4	29.75	755.6	19.6	— 6.9	84	NW			2		5			0.209	5.3		Prof. E. Luther.
Köslin			29 78	756.3	25.7	— 3.5		Calm			0		6			0.075	1.9		H. Müller.
Leipsic Observatory	29.49	749.0	29.94	760.4	23.7	— 4.6	77	SW			2		7	WNW		0.012	0.3		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.63	752.7	29.86	758.4	28.4	— 2.0	70	WSW			3		10ks	NW		0.039	1.0		Dr. Assmann.
Memel	29.67	753.7	29.72	754.9	15.1	— 9.4	100	ESE			3		10cs					Snow-fog	Reinbrecht & Issermann.
Munich (München)	28.05	712.4	29 90	759.5	28.8	— 1.8	80	W			3		10			0.035	0.9	Snowing	Dr. C. Lang.
Neufahrwasser	29.74	755.4	29.76	755.8	23.0	— 5.0	81	WSW			1		7			0.016	0.4		A. Lothes.
Neustadt (Palatinate)	29.41	746.9	29.93	760.2	32.4	0.2		Calm			0		0			0.063	1.6		Reallehrer Dicknether.
Posen	29.52	749.7	29.82	757.5	25.2	— 3.8	75	W			6		10			0.012	0.3		Prof. Dr. Magener.
Strassburg (in Alsace)	29.44	747.7	30.02	762.4	33.3	0.7	87				1		10	W		0 033	0.83	Light snow.	Imp. University Observatory.
Stuttgart	28.98	736.0	29.96	761.0	31.6	— 0.2	76	N					10			0	0		Prof. Dr. Schoder.
Thorn	29.64	752.8	29.82	757.5	23.7	— 4.6	85	W			2		7			0.006	0.16		Dr. Cunerth.
Weissenburg (Bavaria)	28.39	721.1	29.96	761.0	28.9	— 1.7	87	NW	2.2	1.0			10		NW	0.031	0.8	Foggy	Reallehrer J. Hopfner.
Wustrow	29 77	756.1	29.79	756.7	26.6	— 3.0	96	SE			1		10s			0.028	0 7		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.3	29.94	760.4	51.8	11.0		SW			1.0		Sm'e					Smoky	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.84	758.0	29.90	759.4	68.9	20.5	82	W	20	8.9			10		W	0	0	Overcast	
Deesa	29.43	747.4	29.90	759.5	80.5	26.9	40	SSW	8.2	3.7			0			0	0	Blue sky	
Bombay	29.87	758.6	29.90	759.6	77.3	25.2	70	NW	14	6.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.1	29.87	758.7	86.3	30.2	20	SE	1	0.4			0			0	0	Blue sky	
Belgaum	27.38	695.3	29.89	759.3	81.4	27.4	21	ENE	5	2.2			1	SW		0	0	D. clouds	
Lahore	29.13	739.8	29.90	759.5	60.6	15.9	55	NE	0.4	0.2			10			0	0	Overcast	
Roorkee	28.98	736.0	29.91	759.7	62.8	17.1	62	SW	1.6	0.7			6			0	0	D. clouds	
Agra	29.35	745.4	29.93	760.2	69.7	20.9	42	E	2.2	1.0			7		E	0	0	Blue sky	
Nagpur	28.84	732.6	29.88	759.0	81.1	27.3	30	SE	2.1	0.9			0			0	0	Blue sky	
Jubbulpore	28.51	724.0	29.89	759.1	74.1	23.4	45	Calm	2.1	0.9			2			0	0	D clouds	
Lucknow	29.54	750.4	29.93	760.3	67.1	19.5	46	Calm	0.2	0.1			0			0	0	Blue sky	
Allahabad	29.63	752.6	29.96	760.9	61.8	16.6	72	Calm	0.6	0.3			0			0	0	D. clouds	
Patna	29.73	755.2	29.92	760.0	68.0	20.0	53	Calm	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.86	707.3	29.92	760.0	67.0	19.4	42	WNW	5.7	2.6			4					Showery	
Cuttack	29.85	758.2	29.93	760.3	77.8	25.4	64	SW	1.4	0.6			0			0	0	Blue sky	
Jalcutta (Alipore)	29.69	759.3	29.92	759.8	72.4	22.4	81	SSW	6.0	2.7			3			0	0	D. clouds	
Goalpara	29.56	760.9	29.97	761.2	64.3	17.9	75	E	5.6	2.5			1			0.02	0.5	D. clouds	
Chittagong	29.88	759.0	29.97	761.3	69.5	20.8	85	Calm	4.3	1.9			0			0	0	Misty	
Sibsagar	29.69	754.1	30.04	763.1	58.9	14.9	94	E	3.4	1.5			8	SW	SW	0.61	15.5	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.4	29.98	761.5	33.4	0.8	58	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.43	747.5	29.98	761.4	29.1	— 1.6	77	NNE	.....	.....	.....	.....	5	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.87	758.7	29.99	761.7	24.8	— 4.0	79	SW	0.7	0.3	.....	.....	3	NW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.3	29.97	761.1	25.3	— 3.7	71	NE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.77	756.2	29.97	761.3	44.6	7.0	51	SE	4.9	2.2	.....	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.98	710.6	30.00	762.1	28.9	— 1.7	40	NW	.....	.....	2	.....	0.	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.95	760.7	30.00	762.0	32.9	0.5	77	WNW	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.4	30.01	762.3	37.4	3.0	48	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.92	759.9	30.01	762.2	41.2	5.1	42	ENE	0	0	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.80	756.9	29.98	761.6	43.2	6.2	49	NNW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.68	753.6	29.95	760.7	43.3	6.3	48	NW	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.08	738.5	30.00	762.0	36.3	2.4	79	NW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.77	756.2	29.98	761.4	49.6	9.8	40	NW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.65	753.2	29.91	759.8	50.0	10.0	64	NW	12.5	5.6	.....	.....	8	NW	.....	0.079	2.0	.....	Prof. G. Ciacciatore.
Syracuse	29.84	758.0	29.89	759.1	50.7	10.4	77	SSE	2.5	1.1	.....	.....	10	NE	.....	0.130	3.3	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.4	29.97	761.2	41.5	5.3	62	ENE	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.39	771.9	30.40	772.1	36.2	2.3	78	NNE	1.6	0.7	.....	ck	10cs	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.23	767.8	30.45	773.4	34.4	1.3	80	N	1.4	0.6	.....	0	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.10	764.5	30.17	766.3	32.0	0.0	58	N	10.2	4.6	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.28	769.1	30.33	770.4	39.6	4.2	66	NW	8.7	3.9	.....	0	3ks	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.06	636.5	30.23	767.8	44.2	6.8	58	SW	.....	.....	1	4c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.2	30.27	768.8	50.2	10.1	83	SW	.....	.....	3	6c	0	SW	.....	0	0	Almost cloudy	Prof. M. Leal.
Mazatlan	29.73	755.0	29.99	761.7	65.5	18.6	89	E	.....	.....	1	10c	0	SE	.....	0	0	Very cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.07	585.9	30.31	769.8	39.7	4.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.15	613.3	.....	.....	55.9	13.3	63	SE	.....	.....	2	1c	3k	S	SE	0	0	Fair	M. Fena, M. D.
Pabellon (Aguascalientes)	23.95	608.3	30.05	763.2	49.1	9.5	69	NW	.....	.....	1	7ks	0	SW	.....	0	0	Cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.9	30.11	764.9	37.2	2.9	34	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.19	614.3	30.32	770.2	45.5	7.5	63	SE	.....	.....	1	5	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.04	762.9	30.05	763.2	67.3	19.6	91	Calm	.....	.....	0	1	1	NE	E	0.41	10.5	Light fog	Prof. M. M. Cházaro.
Vera-Cruz	30.04	763.1	30.07	763.8	68.9	20.0	81	Calm	0	0	.....	2s	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.56	573.1	30.26	768.5	51.8	11.0	60	SE	.....	.....	2	9c	0	W	.....	0	0	Cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.04	763.0	30.04	763.0	33.3	0.7	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.83	757.6	29.88	759.0	.....	.....	.....	W	.....	.....	.....	.....	.....	.....	.....	0.012	0.3	.....	
Helder	29.93	759.7	29.93	759.7	34.5	1.4	.....	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.01	762.3	30.01	762.3	31.1	— 0.5	85	WSW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.94	760.5	29.99	761.7	29.1	— 1.6	82	WSW	.....	.....	2	.....	5	.....	.....	0.043	1.1	Cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.79	756.7	29.85	758.1	25.5	— 3.6	91	S	3.6	1.6			0			0	0		
Brönö	29.97	761.3	30.01	762.3	19.4	— 7.0	49	NE	4	2			0			0	0		
Christiana	29.72	754.9	29.86	758.9	20.5	— 6.4	87	ESE	2	1			9			0.020	0.5	Light fog	
Tromsö	29.95	760.6	29.99	761.7	17.2	— 8.2	76	SW	7	3			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.22	767.5	46.8	8.2	86	ENE	2.6	1.1			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.8	30.12	765.1	66.0	18.9	53	SW	6.3	2.8			3			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.87	758.7	30.24	768.2	40.0	7.8	100	NE	5.6	2.5			10			0.094	2.4		The Staff.
Ponta Delgada (Azores)	29.55	750.5	29.62	752.3	56.5	13.6	89	S	27.3	12.2			10			0.118	3.0	Raining	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swel Height scale 0-9	Sea or swel Direction form—																	
Bartholomew Dias																			A. G. d Silva Costa, Com'd't.
D. Fernando																			A. . . e Sande, Com'd't.
Duque da Terceira																			J. C M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. N. 12° 21′, W. 16° 57′					79.5	26.4		ENE			1		2		ENE	0		D. clouds	T. Pereira, 2nd Lieut.
Sà da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea			29.91	759.8	70.3	21.3		WNW			3		7		NW	2	NW	D. clouds	F. de Assis Candido, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.28	769.1	56.5	13.6		N			2		10		N	1		Foggy	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.72	754.9	29.74	755.4	0.7	—17.4	84	ESE	4	2			10						Capt. Sseliwerstow.
Astrakhan	30.29	769.4	30.21	767.3	22.5	— 5.3	80	SE	11	5			0						Capt. Wisgnow.
Barnaul	29.54	760.5	30.51	775.0	— 1.1	—18.4	94	Calm	0	0			7						Meteorological Obs.
Dorpat	29.49	749.1	29.76	755.9	8.4	—13.1	88	SE	2	1			9kn					Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.34	745.3	30.39	771.8	17.1	— 8.3	94	Calm	0	0			10						Meteorological Obs.
Irkutsk																			
Kasan	29.85	758.1	30.13	765.4	20.7	— 6.3	97	S	18	8			10					Snow-drift	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.19	741.4	29.87	758.8	13.8	—10.1	90	NW	2	1			10n					Light haze	Physical Cabinet.
Krotkowo*	29.76	755.9	30.27	768.9	18.0	— 7.8	79	S	18	8			9						Cand. Fatjanow.
Lugan	29.60	751.7	29.81	757.1	32.5	0.3	85	S	22	10			10						Meteorological Obs.
Moscow	29.33	744.9	29.92	760.0	14.4	— 9.8	71	S	4	2			5kn						Meteorological Obs.
Nertchinsk	28.23	717.1	31.03	788.2	—34.8	—37.1	79	Calm	0	0			0						Meteorological Obs.
Nikolaiev	29.91	759.6	29.98	761.4	19.4	— 7.0	83	NNW	4	2			0						Meteorological Obs.
Nukuss	29.89	759.2	30.15	765.7	9.5	—12.3	96	NNW	2	1			6kn						Kurdakof.
Orenberg																			
Pekin (China)	30.56	774.8	30.65	778.4	22.3	— 5.4	93	Calm	0	0			10n						
St. Petersburg	29.73	755.1	29.74	755.5	8.2	—13.2	92	SW	7	3			5kn					Snowing	Physical Observatory.
Tashkend	28.30	718.7	29.95	760.6	29.5	— 1.4	96	Calm	0	0			10						Central Physical Obs.
Tiflis	28.69	728.8	30.16	766.1	38.7	3.7	31	Calm	0	0			0						Teich, A. M.
Vladivostock																			Physical Observatory.
Warsaw	29.32	744.7	29.77	756.1	21.7	— 5.7	82	Calm	0	0			10n					Light snow	
Wilna	29.34	745.2	29.78	756.5	20.7	— 6.3	75	W	4	2			10						Astronomical Obs.
Yeniseisk	30.05	778.6	31.00	787.5	—31.9	—35.5	78	S	2	1			0						Astronomical Obs.
																			Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.01	762.2	30.12	765.0	45.0	7.2	39	SW	3.2	1.44			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.09	764.3	30.15	765.8	47.1	8.4	68	SE	2.0	0.87		2	7	N		0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.1			24.8	— 4.0	95	W	3.6	1.63		0	0			0	0	Dense fog	Domin go Martin y Perez.
Madrid, Royal Observatory	27.92	709.2	30.25	768.4	38.3	3.5	75	S	5.2	2.33		1	1			0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.04	763.0	30.19	766.9	55.6	13.1	57	SSE	1.7	0.75		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	30.04	762.9	46.4	8.0	95	SE	2.5	1.1			10			0.224	5.7	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. L.	29.95	760.8	30.02	762.5	74.1	23.4	78	NNE	13.4	6.0		0	5kn		NE	0.134	3.4	Light rain	Benito Vines, S. J.
Manilla, Phillippine Islands	29.95	760.8	30.00	762.1	79.1	26.2	77	NE	1.1	0.5			3s			0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.13	765.2	30.23	767.8	61.0	16.1	55	SE	1.9	0.8		1	6	SW	SW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.6	29.96	760.9	77.7	25.4	81	SE	0	0		8cks	3k	SE	SE	0	0	D. clouds	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.84	758.0	29.88	759.0	5.4	—14.8		N			2		0			0	0		
Umea	29.85	758.1	29.90	759.4	12.6	—10.8	93	N			2		9			0	0		
Hernosand	29.85	758.1	29.90	759.4	14.7	— 9.6	87	N			4		1			0	0		
Stockholm	29.62	752.4	29.80	756.9	15.8	— 9.0	81	NW			2		4			0	0		
Wisby	29.65	753.2	29.71	754.7	24.1	— 4.4	91	NE			6		7			0.004	0.1		
Sub-Series.																			
Upsala	29.68	753.8	29.76	756 0	10.0	—12.2	74	NW	0	0			6	NNE		0.031	0.78		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.0	30.07	763.6	36.3	2.4	70	SSW			3		10					Snowing	The Observatory.
Zurich	28.29	718.6	30.02	762.4	30.2	— 1.0	90	SW			1		10			0.197	5.0	Snowing	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1 6 mm.; Thermometer, +0.9 Cent. Relative Humidity, —9 per cent

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.00	762.0	34.3	1.3	81	N	4	2.0			10		N	0.228	5.8	Snowing	The Observatory.
Fao, Persian Gulf																			
Valona			29.89	759.3	44.2	6.8		NW			1		10			0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.13	765.4	58.1	14.5	71	SW			3		80		SW	0.22	5.6		Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.20	767.1	30.21	767.3	17.6	— 8.0		Calm	0	0						0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.20	767.1	30.27	768.8	18.1	— 7.7	92	S	1	0.4			10s			0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.18	766.6	30.23	767.8	25.3	— 3.7	99	Calm	0	0			10n			0.06	1.5	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.88	758.9	33.8	1.0	96	SE			1		10s			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.06	763.5	30.23	767.8	17.5	— 8.1		Calm	0	0			10s			0.05	1.3	Cloudy	H. A. Johnson.
Father Point, Quebec	30.14	765.5	30.16	766.1	21.1	— 6.1	93	NE	6.0	2.7			10n			0.10	2.5	Threatening	J. McWilliams.
Fredericton, N. B	30.18	766.6	30.25	768.3	20.0	— 6.7	100	Calm	0	0			Fog			0	0	Foggy	Prof. Harrison.
Fort Garry, Manitoba	28.96	735.3	29.83	757.7	15.5	— 9.2	91	SE	4	1.8			10n			0	0	Cloudy	James Stewart.
Granton, Ontario	28.69	728.7	29.80	756.9	41	5.0		SW			1		10n			0	0	Cloudy	James Grant.
Halifax, N. S	30.08	764.0	30.21	767.3	35.7	0.9	98	N	4	1.8			Fog			0.19	4.8	Foggy	A. Allison.
Hamilton, Ontario	29.47	748.5	29.84	757.9	44.7	7.1	90	E			1		10n					Light rain	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.58	751.3	29.92	760.0	37.7	3.2	91	S	9	4.0		10cs	0			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.27	769.8	30.31	769.9	25 2	— 3.8	86	SW	4	1.8			10			0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.80	756.9	30.01	762.2	34.0	1.1	81	SE	10	4.6			10n			Inap.	Inap.	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.75	755.6	29.78	756.4	17.2	— 8.2	93	S			2		10			0	0	Cloudy	J. R. Nelson.
Norwood	29.14	740.1	29.85	758.2	37.0	2.8	91	S	4	1.8			10s			0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.03	737.3	29.74	755.4	38.5	3.6	95	S	12	5.4			10n		S	0.26	6.6	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.11	739.4	29.87	758.7	38.8	3.8	88	S			1		10n			0	0	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.16	740.7	29.86	758.4	39.9	4.4	91	SW	8	3.6		10k	0		SW	0.02	0.5	Cloudy	H. Morgan.
Port Stanley, Ontario	29.20	741.7	29.86	758.4	38.8	3.8	93	SW	3	1.3			10n			Inap.	Inap.	Light rain	M. Payne.
Quebec, Quebec	29.79	756.7	30.13	765.3	27.5	— 2.5	100	NE			5		Fog			0.08	2.0	Sleeting	Capt. Ashe, R. N.
Rockliffe, Ontario																			W. H. McIntyre.
St. John, N. B	30.06	763.5	30.23	767.8	25	— 3.9	94	N	3	1.3			10ks			0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.01	736.8	29.73	755.1	44.1	6.7	91	S	12	5.4			10ks			0.03	0.8	Light rain	Miss K. Stewart.
Stratford, Ontario	28.48	723.4	29.78	756.4	40.2	4.6	97	SW	12.0	5.4			10s			0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.23	767.8	30.28	769.1	27.0	— 2.8	94	Calm	0	0			10n			0.01	0.3	Light snow	T. C. Hill, C. E.
Toronto, Ontario	29.47	748.5	29.80	758.4	37.6	3.1	91	SE	5	2.2			9ks			Inap.	Inap.	Cloudy	Magnetic Observatory
Windsor, N. S	30.09	764.3	30.19	766.8	30.0	— 1.1	100	N	1	0.4			10n			0	0	Misty	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.78	729.7	29.80	756.9	42.1	5.6	91	S	25	11.2			10s		SW	0.12	3.0	Light rain	Professor Wolverton.
Yarmouth, N. S	30.13	765.3	30.20	767.1	30.5	— 0.8	83	NE	3	1.3		6c	4s		NW	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.14	765.5	30.41	772.4	20	— 6.7		N					10			0.03	0.8	Overcast	John Delany.
St. Pierre, N. F., Hôpital Maritime			30.23	767.8	23.4	— 4.8		E			1								The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.90	759.4	30.14	765.5	32	0.0	89	S.	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.05	737.9	29.70	754.4	35	1.7	100	SE	1	0.4	.....	.....	Fog	.....	Calm	0.20	5.1	Light fog	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.99	736.3	30.16	766.1	44	6.7	75	E	9	4.0	.....	5c	2s	Calm	Calm	0	0	Fair	
Atlantic City, New Jersey	30.21	767.3	30.13	767.8	29	— 1.7	100	SW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Augusta, Georgia	30.05	763.3	30.26	768.6	39	3.9	91	Calm	0	0	.....	2cs	Fog	W	Calm	0	0	Fair	
Baltimore, Maryland	30.17	766.3	30.22	767.6	35	1.7	100	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Barnegat, New Jersey	30.20	767.1	30.23	767.8	27	— 2.8	100	NW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Bismarck, Dakota	27.86	707.6	29.71	754.6	30	— 1.1	89	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.60	726.4	29.90	759.4	61	16.1	94	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Boise City, Idaho	27.26	692.4	30.22	767.6	42	5.6	66	SE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Boston, Massachusetts	30.04	763.0	30.20	767.1	36	2.2	90	W	1	0.4	.....	0	8s	.....	Calm	0	0	Fair	
Brackettville, Texas	28.89	733.8	29.94	760.5	60	15.6	94	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Breckenridge, Minnesota	28.75	730.2	29.77	756.1	28	— 2.2	100	S	4	1.8	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.99	761.7	30.04	763.0	69	20.6	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.17	740.9	29.86	758.4	46	7.8	69	S	11	4.9	.....	2c	5s	Calm	SW	0.01	0.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.76	755.9	30.06	763.5	36	2.2	71	S	9	4.0	.....	.....	10s	.....	SW	Insp.	Insp.	Cloudy	
Cairo, Illinois	29.55	750.6	29.94	760.5	56	13.3	94	SW	4	1.8	.....	.....	10n	.....	SW	0.19	4.8	Heavy rain	
Campo, California	27.48	698.0	30.05	763.3	47	8.3	55	'	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.19	766.8	30.20	767.1	49	9.4	93	NE	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cape Henry, Virginia	30.20	767.1	30.22	767.6	39	3.9	90	SW	3	1.3	.....	0	Fog	.....	Calm	0	0	Foggy	
Cape Lookout, N. Carolina	30.16	766.1	30.18	766.6	47	8.3	92	NE	12	5.4	.....	2c	2ks	N	N	0	0	Fair	
Cape May, New Jersey	30.18	766.6	30.22	767.6	37	2.8	100	S	8	3.6	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	
Castroville, Texas	29.25	742.9	29.96	761.0	61	16.1	100	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cedar Keys, Florida	30.12	765.0	30.14	765.5	57	13.9	100	NW	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Charleston, South Carolina	30.14	765.5	30.20	767.1	48	8.9	85	NE	4	1.8	.....	0	8ks	.....	NE	0	0	Cloudy	
Charlotte, North Carolina	29.33	745.0	30.18	766.6	36	2.2	90	N	2	0.9	.....	5ck	Sm'e	W	Calm	0	0	Smoky	
Chattanooga, Tennessee	29.32	744.7	30.13	765.3	48	8.9	70	SE	7	3.1	.....	8cs	Sm'e	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	41	5.0	33	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.11	739.4	29.80	756.9	42	5.6	66	W	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.30	744.2	29.95	760.7	54	12.2	74	S	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Cleveland, Ohio	29.12	739.6	29.84	757.9	49	9.4	71	S	15	6.7	.....	2k	5s	W	S	0	0	Cloudy	
Coleman City, Texas	28.28	718.3	30.00	762.0	41	5.0	57	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.08	738.6	29.92	760.0	47	8.3	77	S	6	2.7	.....	10k	0	S	.....	.....	0	Cloudy	
Concho, Texas	28.18	715.8	29.91	759.7	43	6.1	84	W	.....	.....	1	0	0	.....	.....	.....	0	Clear	
Corsicana, Texas	29.60	751.8	30.06	763.5	59	15.0	88	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.25	742.9	29.90	759.4	36	2.2	71	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	52	11.1	66	SW	.....	.....	2	.....	10s	.....	W	0.06	1.5	Cloudy	
Deadwood, Dakota	25.07	636.8	.....	.....	40	4.4	25	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.24	742.7	30.05	763.3	46	7.8	62	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.79	629.6	30.01	762.2	34	1.1	61	S	6	2.7	.....	0	6	.....	.....	0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.95	760.7	34	1.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.10	739.1	29.76	755.9	44	6.7	92	SW	11	4.9	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Dodge City, Kansas	27.46	697.5	29.88	758.9	25	— 3.9	50	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.13	739.9	29.84	757.9	37	2.8	71	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.13	739.9	29.82	757.4	30	— 1.1	89	NW	2	0.9	.....	.....	10n	.....	NW	0.03	0.8	Light snow	
Eagle Pass, Texas	29.29	744.0	30.02	762.5	58	14.4	88	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.12	765.0	30.19	766.8	32	0.0	95	NE	6	2.7	.....	.....	Fog	.....	NE	0.01	0.3	Foggy	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	95	S	.....	.....	1	0	5s	.....	Calm	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.12	739.6	28.83	757.7	49	9.4	64	S	17	7.6	.....	.....	8s	.....	SW	0	0	Cloudy	
Escanaba, Michigan	29.10	739.1	29.77	756.1	34	1.1	79	NW	3	1.3	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	
Florence, Arizona	28.56	725.4	30.16	766.1	40	4.4	73	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.50	698.5	29.33	745.0	31	— 0.6	89	S	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer, Montana	26.55	674.4	.....	.....	46	7.8	85	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.27	641.8	30.23	767.8	35	1.7	70	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.50	749.3	30.06	763.5	38	3.3	81	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.33	643.4	30.13	765.3	40	4.4	41	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.82	732.0	30.14	765.5	41	5.0	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	26.93	684.0	.....	.....	37	2.8	80	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.75	704.8	29.68	753.9	51	10.6	86	N	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	30.00	762.0	40	4.4	56	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.77	705.4	.....	.....	32	0.0	89	S	2	0.9	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	78	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.25	717.5	29.78	756.4	60	15.6	82	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.04	763.0	30.08	764.0	64	17.8	94	S	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Graham, Texas	29.01	736.8	30.12	765.0	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.14	740.1	29.79	756.7	42	5.6	83	W	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.12	739.6	30.10	764.5	37	2.8	81	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.05	737.9	29.81	757.2	55	12.8	81	S	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Indianola, Texas	30.07	763.8	30.09	764.3	64	17.8	94	Calm	0	0	.....	1c	Haze	SW	Calm	0.01	0.3	Clear	
Jacksboro, Texas	28.93	734.8	30.08	764.0	50	10.0	86	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.12	765.0	30.14	765.5	58	14.4	88	N	6	2.7	.....	.....	10n	.....	Calm	.....	.....	Light rain	
Keokuk, Iowa	29.26	743.2	29.85	758.2	38	3.3	81	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.02	762.5	30.05	763.3	69	20.6	90	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.20	767.1	30.23	767.8	46	7.8	100	NE	9	4.0	.....	0	Fog	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.13	739.9	30.17	766.3	39	3.9	91	NE	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.08	738.6	29.82	757.4	39	3.9	72	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	29	— 1.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.74	755.4	30.08	764.0	62	16.7	67	SE	4	1.8	.....	2k	0	SW	.....	0	0	Clear	
Leavenworth, Kansas	29.14	740.1	30.01	762.2	35	1.7	80	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.64	752.8	29.99	761.7	61	16.1	88	SW	7	3.1	.....	0	5s	.....	W	0.13	3.3	Fair	
Los Angeles, California	29.69	754.1	30.04	763.0	51.0	10.6	59	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.35	745.5	29.90	759.4	56	13.3	75	S	6	2.7	.....	.....	10s	.....	SW	0	0	Threatening	
Lynchburg, Virginia	29.50	749.3	30.21	767.3	37	2.8	82	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	28.78	731.0	29.78	756.4	34	1.1	79	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Marquette, Michigan	28.98	736.1	29.68	753.9	34	1.1	100	NW	4	1.8	.....	.....	10n	.....	Calm	0.68	17.3	Light snow	
Mason, Texas	28.43	722.1	30.19	766.8	57	13.9	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.63	752.6	29.96	761.0	59	15.0	94	S	12	5.4	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.05	737.9	29.79	756.7	35	1.7	80	W	11	4.9	.....	1cs	0	Calm	.....	0	0	Clear.	
Mobile, Alabama	30.11	764.8	30.15	765.8	51.5	10.8	89	S	1	0.4	.....	0	2s;sm	.....	W	0	0	Smoky.	
Montgomery, Alabama	29.95	760.7	30.19	766.8	46	7.8	88	SE	1	0.4	.....	8c;k	0	W	.....	0	0	Fair.	
Morgantown, West Virginia	29.03	737.3	30.03	762.7	47	8.3	70	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy.	
Mt. Washington, N. H.	23 73	602.7	30.09	764.3	27	— 2.8	77	NW	18	8.0	.....	10k	10ks	Calm	W	0	0	Cloudy.	
Nashville, Tennessee	29.49	749.0	30.02	762.5	56	13.3	69	SE	7	3.1	.....	0	8ks	.....	SE	0	0	Cloudy.	
New Haven, Connecticut	30.08	764.0	30.20	767.1	35	1.7	100	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
New London, Connecticut	30.15	765.8	30.20	767.1	34	1.1	100	W	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	60	15.6	88	E	4	1.8	.....	2ck	Sm'e	Calm	Calm	0	0	Smoky.	
Newport, Rhode Island	30.14	765.5	30.20	767.1	37	2.8	81	SW	3	1.3	.....	5c	0	Calm	.....	0	0	Fair.	
New River, North Carolina	.....	.....	.....	.....	40	4.4	91	NE	.....	.....	1	5cs	0	Calm	.....	.....	.....	Fair.	
New York, New York	30.04	763.0	30.23	767.8	30	— 1.1	100	SW	2	0.9	.....	.....	.....	Fog	.....	0	0	Dense fog.	
Norfolk, Virginia	30.17	766.3	30.23	767.8	37	2.8	100	Calm	0	0	.....	.....	.....	Fog	.....	Calm	0	0	Foggy.
North Platte, Nebraska	27.03	686.6	30.70	754.4	26	— 3.3	75	NW	6	2.7	.....	0	0	.....	.....	.....	0	Clear.	
Olympia, Washington Ter.	29.84	757.9	29.88	758.9	47.0	8.3	95	S	6	2.7	.....	.....	10n	.....	Calm	1.46	37.1	Light rain.	
Omaha, Nebraska	28.80	731.5	29.92	760.0	37	2.8	63	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.66	753.4	29.98	761.5	41	5.0	74	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy.	
Pembina, Dakota	28.85	732.8	29.72	754.9	20	— 6.7	100	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Pensacola, Florida	30.15	765.8	30.18	766.6	54	12.2	93	E	4	1.8	.....	5cs	Haze	SW	Calm	0	0	Fair.	
Philadelphia, Pennsylvania	30.17	766.3	30.23	767.8	34	1.1	100	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
Phœnix, Arizona	28.80	733.8	30.74	780.8	46	7.8	54	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.78	451.6	29.90	761.7	18	- 7.8	37	N	15	6.7	.....	1cs	0	Calm	.....	0	0	Clear.	
Pilot Point, Texas	29.32	744.7	30.17	766.3	42	5.6	73	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Ploche, Nevada	.....	.....	.....	.....	31	— 0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.18	741.1	29.99	761.7	47	8.3	70	SW	14	6.3	.....	0	5s	.....	W	0	0	Fair.	
Port Huron, Michigan	29.09	738.9	29.75	755.6	42	5.6	91	S	12	5.4	.....	.....	10n	.....	S	0.01	0.3	Light rain.	
Portland, Maine	30.13	765.3	30.18	766.6	34	1.1	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Portland, Oregon	29.94	760.5	30.01	762.2	53	11.7	86	S	10	4.5	.....	.....	10s	.....	.....	0.23	5.8	Cloudy.	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	93	NE	14	6.3	.....	5k	0	SW	.....	0	0	Fair.	
Prescott, Arizona	24.88	631.9	30.24	768.1	28	— 2.2	88	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.05	763.3	30.07	763.8	61	16.1	88	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California	29.79	756.7	30.16	766.1	43	6.1	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	29.84	757.9	30.06	763.5	63	17.2	94	SE	.....	.....	1	0	8s	.....	Calm	0	0	Fair.	
Rochester, New York	29.27	743.4	29.80	759.2	44	6.7	76	SW	5	2.2	.....	5cs	5s	SW	Calm	0	0	Cloudy.	
Roseburg, Oregon	29.54	750.3	30.12	765.0	40	4.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Sacramento, California	30.12	765.0	30.20	767.1	42	5.6	91	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.35	745.5	29.93	760.2	44	6.7	68	NW	12	5.4	.....	0	1s	....	Calm	0	0	Clear.	
St. Paul, Minnesota	28.98	736.1	29.82	757.4	37	2.8	80	NW	1	0.4	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Salt Lake City, Utah	25.84	656.3	30.17	766.3	28	— 2.2	54	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.38	746.2	29.96	761.0	63	17.2	94	SE	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair.	
San Diego, California	29.98	761.5	30.05	763.3	47	8.3	70	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.16	740.7	29.82	757.4	49	9.4	78	S	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Sandy Hook, New Jersey	30.18	766.6	30.22	767.6	31	— 0.6	100	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
San Francisco, California	30.01	762.2	30.08	764.0	48	8.9	78	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	18	- 7.8	37	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.10	764.5	30.20	767.1	47	8.3	77	N	5	2.2	.....	2ck	0	SW	.....	0	0	Fair.	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	32	16.7	88	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.16	766.1	30.19	766.8	44	6.7	83	N	7	3.1	.....	5k	1ks	Calm	Calm	0	0	Fair.	
Socorro, New Mexico	25.56	649.2	29.62	752.3	29	— 1.7	56	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Illinois	29.25	742.9	29.93	760.2	42	5.6	74	W	9	4.0	.....	0	1s	.....	SW	0	0	Clear.	
Springfield, Massachusetts	30.06	763.5	30.20	767.1	34	1.1	79	Calm	0	0	.....	.....	10s	.....	SW	0	0	Threatening	
Stockton, Texas	27.10	688.3	30.10	764.5	45	7.2	18	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	30.14	765.5	30.19	766.8	39	3.9	91	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.	
Toledo, Ohio	29.12	739.6	29.79	756.7	50	10.0	72	S	14	6.3	.....	.....	10s	.....	W	0	0	Cloudy.	
Tucson, Arizona	27.62	701.5	30.17	766.3	39	3.9	46	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Umatilla, Oregon	29.61	752.1	30.11	764.8	47.5	8.6	85	W	2	0.9	.....	0	2ks	.....	Calm	Inap.	Inap.	Fair.	
Uvalde, Texas	29.17	740.9	29.98	761.5	62	16.7	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
Vicksburg, Mississippi	29.83	757.7	30.09	764.3	59	15.0	94	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.	
Virginia City, Montana	24.16	613.6	29.64	752.8	42	5.6	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.70	754.4	30.09	764.3	35	1.7	95	SE	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear.	
Washington, D. C.	30.08	764.0	30.21	767.3	31	— 0.6	100	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.11	764.8	30.19	766.8	45	7.2	84	NE	3	1.3	.....	2k	0	Calm	.....	0	0	Fair.	
Winnemucca, Nevada	25.80	655.3	30.16	766.1	27	— 2.8	76	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.17	766.3	30.21	767.3	42	5.6	83	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.	
Yankton, Dakota	28.61	726.7	29.96	761.0	28	— 2.2	65	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.90	759.4	30.05	763.3	51	10.6	46	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	76	24.4	76	NE	2.4	1.1	.....	0	8ks	.....	NE	0	0	Cloudy.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	76	24.4	95	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Fair.	James Gall.
Navassa, W. I.	29.85	758.2	29.93	760.2	76	24.4	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.89	759.2	29.89	759.2	76	24.4	91	E	.....	.....	2	.....	10n	.....	.....	0.700	17.78	Raining.	C. J. Hering.
Santiago de Cuba, W. I.	29.93	760.2	29.96	761.0	74	23.3	85	Calm	0	0	.....	4ck	4ks	.....	SW	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.82	757.4	29.88	758.9	—27.0	—32.8	.....	SW	18	8.0	.....	.....	10n	.....	SW	0.10	2.5	Snowing.	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,000 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer, as read off. Inches.	Barometer, as read off. Millimeters.	Barometer, Attached Thermometer. Fahrenheit.	Barometer, Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.19‡	766.8‡			60	15.6	88	NE	1	0.4			0								Clear
Navy Yard, Portsmouth, N.H.	30.20‡	767.1‡			32	0.0	89	NW	1	0.4			10								Raining
Alaska, S. 25° 02′, W. 70° 46′	29.93‡	760.2‡			68	20.0	74	SW			2		10					Long	SW	Overcast	
Colorado, New York, N. Y.	30.13‡	765.3‡			31	— 0.6	100	SW	1	0.4			10			0	0			Foggy	
Constitution, Frederickstoed, Santa Cruz, W. I.	29.92‡	760.0‡			76	24.4	91	ESE			2		8		ESE					Cloudy	
Enterprise. Piræus, Greece	29.99‡	761.7‡			55	12.8	68	S			2		6		S			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.25‡	768.3‡			38	3.3	81	Calm	0	0			10		SW	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.09‡	764.3‡			44	6.7	92	E	2.4	1.1			1			0	0			Clear	
Kearsarge, Key West, Fla.	30.06‡	763.5‡			71	21.7	90	NNE			2		2		NE			Smooth		Fair	
Lackawana, N. 30° 18′, W. 157° 20′	30.39‡	771.9‡			68	20.0	90	NE			6		2		NE			Mod'ate	NE	Fair	
Marion, S. 2° 07′, W. 35° 50′	29.91‡	759.7‡			82	27.8	83	ESE			4		2		ESE	0	0	Smooth	ESE	Clear	
Michigan, Erie, Pa.	29.93‡	760.2‡			50	10.0	52	S			4		10		S					Cloudy	
Monocacy, Shanghai, China	30.47‡	773.9‡			42	5.6	74	N			1		10							Overcast	
New Hampshire, Port Royal, S. C.	30.22‡	767.6‡			50	10.0	86	NE	14	6.3			2?		NE	0	0			Cloudy?	
Nipsic, N. 14° 06′, W. 65° 18′	29.91‡	759.7‡			78	25.6	86	SSE			4		5		E			Smooth	E	D. clouds	
Onward, Callao, Peru	29.89‡	759.2‡			68	20.0	95	SSE			1		10					Mod'ate smooth	W	Foggy	
Palos, Tientsin, China	30.64‡	778.2‡			28	— 2.2	100	S			2		0							Clear	
Passaic, Washington, D. C.	30.21‡	767.3‡			32	0.0	69	NE			1		10							Foggy	
Pensacola, Callao, Peru	29.89‡	759.2‡			68	20.0	90	Calm			0		10					Smooth		Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.21‡	767.3‡			34	1.1	90	WSW			1		10			Light	Light			Foggy	
Quinnebaug, Leghorn, Italy	30.00‡	762.0‡			50	10.0	45	E			1		0							Clear	
Ranger, N. 31° 00′, W. 152° 35′	30.35‡	770.9‡			68	18.9	80	NE			5		10		NE			Smooth		Clouuy	
Richmond, Hong-Kong, China	30.22‡	767.6‡			62	16.7	77	NE			2		5					Smooth		Fair	
Rio Bravo, Brownsville, Texas	30.17‡	766.3‡			64	17.8	100	SE	2	0.9			2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.22‡	767.6‡			38	3.3	100	S			3		Fog			0	0			Foggy	
Shenandoah, Montevideo, Uruguay	29.83‡	757.7‡			70	21.1	52	SSE			2		0					Smooth		Clear	
St. Louis, League Island, Pa.	30.25‡	768.3‡			30	— 1.1		SW	3	1.3			10			0	0			Foggy	
Tennessee, Hampton Roads, Va.	30.23‡	767.8‡			39	3.9	91	Calm	0	0			0			0	0			Foggy	
Trenton, Villafranca, France	29.98‡	761.5‡			53	11.7	48	SE			1		0			0	0			Clear	
Tuscarora, N. 13° 07′, W. 88° 30′	29.97‡	761.2‡			79	26 1	70	NNE			3		2		Calm			Smooth		Clear	
Wabash, Boston, Mass.	30.15‡	765.8‡			35	1.7	80	Calm	0	0			10				0			Cloudy	
Wyoming, Toulon, France	29.98‡	761.5‡			50	10.0	45	WSW			2–3		2		W			Smooth	W	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of *from*; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 116 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 44° 30', W. 63° 30'.....	.....	30.18‡	766.6‡	.....	.....	.....	NNE	.....	.....	2	.....	10	.....	NNE	Slight	Smooth	NE	Drizzling....	W. E. Jago.
S. S. Circassian, N. 55° 15', W. 18° 52'.....	.....	30.16‡	766 1‡	46	7.8	.....	NNE	.....	.....	1	.....	8	.....	NNE	.....	Mod'ate	NE	Fine.....	R. Carruthers.
S. S. Hibernian, F. Archer, N. 48° 46', W 47° 47'.....	.....	30 08‡	764.0‡	86	2.2	.....	NNW	.....	.....	6	.....	10	.....	NNW	.....	Mod'ate	NNW	Cloudy.....	.....
S. S. Moravian, J. Graham.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John France.
S. S. Peruvian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Sardinian, J. E. Dutton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Air.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 51° 23', W. 25° 25'... .	.....	30.18‡	766.6‡	52	11.1	.....	E	.....	.....	7	.....	3	.....	E	0	Mod'ate	SE	Fair	.....
S. S. Ohio, Henry Morrison.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Shackford.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Scythia, W. H. O. Hains	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Buckland.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Braunschweig, C. Undutsch....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 38° 07', W. 70° 27'.....	.....	30.34‡	770.6‡	.....	.....	.....	ENE	.....	.....	2	.....	8	.....	NE	0	Smooth	ENE	Cloudy.....	S. Risius.
S. S. Ohio, G. Meyer, N. 38° 50', W. 24° 42'.....	.....	29.68‡	753.9‡	.....	.....	.....	SSW	.....	.....	4	.....	8	.....	S	.....	Long	SW	Cloudy.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer,.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. A. Joyce.
S. S. Gaelic, Davidson, N. 22° 22', E. 115° 08'....†.	.....	30.21‡	767.3	60	15.6	.....	ENE	.....	.....	4–5	.....	ks	.....	.....	0	Rough	NE	D. clouds....	J. A. Thompson.
S. S. Oceanic, Metcalf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Lachlan.
S. S. Oregon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Idaho, E. Alexander....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Orizaba.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. State of California, G. Debney..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 34° 34′, E. 141° 01′ ...†		29.86‡	758.4‡	55	12.8	56	NNW			7		5k		NW	0	Heavy	NW	Squally	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Zalandia, R. C. Ghest. N. 11° 22′, W. 160° 27′		29.88‡	758.9‡				E			5				NE		Mod'ate	N	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 11′, W. 14° 17′ ...*		30.39‡	771.9‡	61.5	16.4		ENE			2		10				Long	WSW	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 25° 09′, W. 66° 20′ ...†		30.15‡	765 8‡	72	22.2		E			5		10		E	Very Heavy	Long	SSE	Stormy	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 18, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco			30.15	765 9				W			1		0			0	0	Clear.	
Nemours			30.10	764 6	61.2	16.2	73	E			1		0			0	0	Clear	Kesxuche.
Algiers			30.08	763.9	57.2	14.0	67	WSW			3		10			0	0	Covered	Tourtiere.
La Calle			30.07	763.7	56.8	13.8	48	W			3		7			0	0	Very cloudy	Foufrede.
Tunis																			Jacques
Stax																			Gau.
Saida			30 08	764.1															Herbin.
Tebessa			30.13	765.3															Watrin.
Geriville			30.19	766.8	50.9	10.5	87	NNW			6		8			0	0	Very cloudy	Brugniaux.
Laghouat								SE			1		1			0	0	Very fair	Bertrand.
Biskra			30.24	768.0	57.9	14.4	55	W			4		2			0	0	Fair	Chanvaux.
			30.17	766.2	57.6	14.2	58	WNW			1		0			0	0	Clear	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.32	744.8	29.91	759.7	20.1	— 6.6	100	W			1		10			0.051	1.3	Snowing	Prof. Ivan Stozir.
Eperies	29.00	736.5	29.81	757 1	23.0	— 5.0	95	SSW	2.9	1.3			10			0.012	0.3		Dr. Wierzbicki.
Gratz	28.92	734.6	29.88	758.9	14.0	—10.0	87	S			3		10			0	0		Julius Mikolik.
Hermannstadt	28.57	725.6	29.89	759.3	22.0	— 5.2	75	S			2		6			0	0		Andreas Rospini.
Kremsmünster	28.47	723.0	30.01	762.3	15.1	— 9.4	91	SSE			2		0			0	0		Prof. A. Gottschling
Lemberg	28.49	723.6	29.90	759.5	20.6	— 3.0	96	NW			1		10			0.110	2.8		Prof. C. Wagner.
Pola	28.77	730.8	29.82	757.5	21.0	— 6.1	98	S			1		9			0.106	2.7		Dr. T. Stanecki.
Szathmar	29.76	756.0	29.88	759.0	39.0	3 9	75	WSW			1		10			0	0		I.R.Hydrographic Office
Szegedin	29.49	749.1	29.99	761.7	22.3	— 5.4	96	SW			2		10			0	0		Pet. Pancsics, S. J.
Trieste	29.61	752.0	29.90	759.5	27.3	— 2.6	83	SW			2		5			0.012	0.30		Karl Stancel.
Vienna	29.79	756.6	29.89	759.2	30.6	4.2	62	Calm			0		10			Inap.	Inap.	Light rain	P. Busin.
	29.13	739.8	29.46	748.2	29.1	— 1.6	76	WNW			2		8			0.051	1.3		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Pasau
Brussels	29.80	756.9	30.01	762.3	35.2	— 1.0	91	WSW			0		10					Light snow	Royal Observatory.
Furnes	29.99	761.7	30.01	762.3	36.0	2.2	92	NW			2		9			0.004	0.1	Foggy	M. E. de Cae.
Maeseyck	29.91	759.8	30.04	763.0	27.9	— 2.3	91	N			2		10			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.03	762.7	30.13	765.3	38.1	3.4		E	9	4.0			3			0.010	0.25	Blue sky	W. Boswell.
Ardrossan																			G. Carrick.
Armagh, (Observatory)	29.78	756.4	30.02	762.5	38.1	3.4		NNE	7	3.1									S. Call.
Bidston (Liverpool Obs)			29.99	761.7	35.6	2.0		ESE	10	4.5			10					Overcast	John Hartnup.
Bolton (Sharples)	29.42	747.3	29.95	760.7	34.4	1.3		NW					10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire																0.01	0.3		J McLandsborough.
Bridgetown, Barbadoes	29.86	758.4	29.90	759.4	78	25.6		NE			1		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	29.91	759.7	30.10	764.5	34.9	1.6		W			1		10					D. clouds	H. Todd.
Cardington			29.98	761.5	33.1	0.8		WSW			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	29.91	759.7	30.04	763.0	30.2	1.0		N			1		10k					Overcast	W. Gibson, Sapper, R.E.
Donaghadee	29.97	761.2	30.01	762.2	41	5.0		ENE			5		5					D. clouds	J. Mac Gowan.
Dover	29.97	761.2	30.00	762.0	36	2.1		N			2		2					Misty	J. Costello.
Falmouth (Observatory)	29.75	755.6	29.99	761.7	37.3	2.9		N			1		9					Overcast	The Staff.
Fort Napier, Natal	27.72	704.1	29.93	760.2	68.0	20.6		NE			1		10					Overcast	Corp'l H. Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.95	760.7	39	3.9		NE			2		4			0	0	D. clouds	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.84	757.9	30.05	763.3	35.3	1.8		NE			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.98	761.5	29.99	761.7	33	0.6		WNW			1		8					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.83	757.7	30.00	762.0	35.3	1.8		SW			1		0					Blue sky	The Staff, for G. B. Airy.
Guernsey	29.72	754.9	29.95	760.7	40	4.4		ESE			1		7					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.12	765.0	30.24	768.1	40	4.4		NW			2		3k			0.08	2.0	Fair	M. P. Moyle.
Holyhead	29.90	759.4	29.97	761.2	45	7.2		SSW			2		10					Overcast	John Tilston.
Jersey	29.68	753.9	29.98	761.5	38.0	3.3		E			2		9			Blank	Blank	Misty	J. Fisher.
Kew (Observatory)	29.98	761.5	30.01	762.2	35.0	1.7		NW	4	1.8			4					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.73	755.1	30.00	762.0	32.9	0.5		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.15	765.8	55.6	13.1		SW			2		3k					Blue sky	A. King.
Nairn	30.03	762.7	30.13	765.3	33	0.6		Calm			0		8			Blank	Blank	¾ clouded	W. D. Penny.
Nassau, Bahamas			29.97	761.2	72.8	22.7		NW			2		5					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.82	757.4	30.02	762.5	33.2	0.7		Calm			0		10			0.037	0.94	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.45	748.0	29.99	761.7	37.1	2.8		WSW			0–1		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.78	756.4	30.04	763.0	33	0.6		WSW			1		10					Overcast	H. E. Bellamy.
Plymouth	29.89	759.2	29.97	761.2	37.0	2.8		NE			2		6					D. clouds	John Merrifield.
*Roche's Point	29.91	759.7	29.99	761.7	39	3.9		NNE			3		5					½ clouded	Wm. Kennedy.
St. Ann's Head	29.82	757.4	29.98	761.5	40	4.4		ENE			1		7					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			30.18	766.6	35.5	1.9		Calm	0	0			8					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.90	759.4	29.96	761.0	34.0	1.1		NNE			2		10					Sleeting	Serg't W. H. Lyne.
Sheffield	29.73	755.1	30.02	762.5	36.4	2.4		Calm			0		10			0	0	Misty	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	37.6	3.2	73	W			2		5			0	0	D. clouds	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			30.00	762.0	34.1	1.2		NNW	0	0			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss					36.5	2.5		NE			1		0					Blue sky	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	29.94	760.5	30.02	762.5	38	3.3		NE			0		10					Gloomy	W. Newcombe.
Valencia (Observatory)	29.98	761.5	30.00	762.0	42.3	5.7		ENE	13	5.8			4					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.95	760.7	29.99	761.7	71.5	21.9	88	S	25	11.2		0	0			0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.72	678.7			66	18.9		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.16	766	59.9	15.5		SE			Calm		Slight			0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.79	756.7	29.98	761.5	79.0	26.1	80	SE	11.0	4.9		3	9		E	0.07	1.8	Misty	R. L. J. Ellery.
Melbourne (Observatory)	29.95	760.7	30.04	763.0	58.1	14.5	74	SSE	5	2.2			2			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.21	767.3	42	5.6		ENE			4	3	3	SE		0.3	8.		
North Unst, Shetland Is			30.18	766.6				N			4	4	7	NE		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tilly Bay, Patagonia			29.53‡	750.0‡	53	11.7		WNW			3		9					Squally	Capt. A. J. Brown.
City of Agra, S. 52° 32′, W. 131° 40′			30.07‡	763.8‡	43	6.1		SW			5		10					Overcast	Capt. Thos. Young.
City of Cashmere, S. 56° 17′, W. 68° 22′			29.34‡	745.2‡	47.2	8.4		W			6		9					Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 36° 10′, W. 39° 25′			29.60‡	754.1‡	57	13.9		NW			7		7					Squally	Capt. Jas. Buchan.
S. S. Decapolis, N. 48° 52′, W. 4° 56′			29.88‡	758.9‡	44.5	6.9		ENE			1		10					Showery	Capt. T. M. Almond.
Barque Dochra, S. 35° 19′ W. 123° 33′			30.23‡	767.8‡	74	23 3		NNE			4		1					Blue sky	Capt. N. Spalding.
Barque Fedalma, N. 48° 50′, W. 21° 30′			29.79	756.7	55	12.8		E			8		9			3	ESE	Overcast	Capt. H. L. Fox.
Bqte Fylde, N. 44° 35′, W. 12° 35′			29.89	759.2	51	10.6		E			5		10			5	Confused	Drizzling	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			30.02‡	762.5‡	76	24.4		E			2		0					Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, Off Bird Rock Light, Bahama Islands			29.96	761.0	78	25.6		N			1		5					D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 5° 24′, E. 86° 42′			29.86‡	758.4‡	80.2	26.8		E			4		8					Raining	Capt. W. P. Hughes.
S. S. Strathleven, N. 34° 05′, E. 24° 45′			29.88‡	758.9‡	56.0	13.3		NW			6		7					Squally	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	63.0	17.2	82	NE	.....	.....	1	.....	2d	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.01	762.3	30.06	763.5	21.2	— 6.0	77	N	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	30.17	766.3	30.10	766.8	22.8	— 5.1	78	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.13	765.4	30.18	766.5	34.5	1.4	96	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Fanöe)	30.22	767.5	30.25	768.4	33.1	0.6	89	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Vestervig	30.07	763.7	30.18	766.5	23.2	— 4.9	76	NE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.4	30.06	763.4	33.8	1	92	NW	.....	.....	1	.....	10	.....	.....	0.051	1.3	Snowing?	Collignon, Director.
Amiens, Normal School	29.94	760.5	30.06	763.4	29.1	— 1.6	84	ENE	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.75	755.7	30.02	762.5	32.0	0.0	88	SSW	.....	.....	1	c	.....	.....	.....	0	0	Light fog	Klein, Commandant.
Avignon, Normal School	29.84	758.0	29.92	760.0	47.5	8.6	55	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.45	748.0	30.05	763.2	25.2	— 3.8	79	ENE	.....	.....	1	.....	10	.....	.....	0.008	0.2	Covered	C. Saillard, Director.
Beauvais, Normal School	29.76	756.0	30.05	763.2	27.9	— 2.3	94	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.10	739.0	30.03	762.7	34.2	1.2	.....	E	.....	.....	1	.....	10	.....	E	0	0	Covered	A. Carré, Director.
Bordeaux	29.71	754.5	29.90	759.5	38.3	3.5	83	SE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.12	739.6	30.03	762.7	35.6	2	93	S	.....	.....	1	.....	10n	S	.....	0.173	4.4	Snowing	Marlot, Director.
Bourges, Normal School	29.39	746.5	29.97	761.1	36.3	2.4	94	NNW	.....	.....	3	.....	10n	.....	WNW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.69	754.1	29.93	760.3	43.5	6.4	88	Calm	.....	.....	0	.....	10	.....	SW	0.089	2.25	Rainy	Ch. de Kermaree, Dir
Caen, Normal School	29.89	759.3	29.97	761.1	37.4	3	86	S	.....	.....	2	.....	10	.....	S	0.295	7.5	Lightly cov'd	M. Bietrin, Director.
Carcassonne, N. School	29.47	748.4	29.89	759.2	43.5	6.4	53	E	.....	.....	2	.....	8	S	E	0	0	Very cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.73	755.2	30.08	764.0	21.9	— 5.6	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.41	746.9	30.00	761.9	32.5	0.3	89	E	.....	.....	1	.....	10	.....	.....	0.209	5.3	Covered	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.55	725.2	29.94	760.5	41.7	5.4	57	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.11	739.3	30.03	762.8	23.0	— 5	.....	W	.....	.....	1	.....	1	.....	W	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	28.74	730.1	29.89	759.1	45.5	7.5	42	NW	.....	.....	2	.....	1	.....	NW	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.20	741.6	30.00	762.1	31.3	— 0.4	.....	ESE	.....	.....	1	.....	kn	.....	SE	0.220	5.6	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.76	755.9	29.98	761.6	40.8	4.9	69	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.68	753.9	30.00	762.0	38.8	3.8	87	N	.....	.....	2	.....	10	.....	N	0	0	Covered	Poirrier, Director.
Louis-Le-Saulnier, N. School	29.04	737.5	29.99	761.7	33.3	0.7	93	SW	.....	.....	1	.....	10	.....	.....	2.68	68.	Snowing	A. Baudry, Director
Lorient, Naval Observatory	29.84	758.0	29.95	760.8	41.7	5.4	94	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.33	745.0	30.00	761.9	37.9	3.3	86	NE	.....	.....	1	.....	8n	.....	W	0	0	Very cloudy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.60	751.8	29.87	758.7	48.2	9.0	55	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.91	734.4	30.03	762.7	24.8	— 4	86	NNW	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	24.60	624.9	29.92	759.9	34.2	1.2	78	S	9.4	4.2	.....	.....	8	.....	NE	0.047	1.2	Snowing	M. Cave
Nice	29.82	757.4	29.85	758.3	50.4	10.2	68	W	.....	.....	2	.....	1	W	W	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	29.75	755.7	29.96	761.0	49.1	9.5	69	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	29.74	755.5	.....	.....	29.8	— 1.2	80	ESE	.....	.....	1	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.80	756.8	29.91	759.7	43.7	6.5	72	NE	7.4	3.3	.....	.....	3	NW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.24	564.9	.....	.....	23.7	— 4.6	.....	.....	.....	.....	.....	.....	.....	.....	NNW	0.228	5.8	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	28.91	734.2	30.01	762.3	37.4	3	93	NW	.....	.....	1	.....	1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	24.93	633.3	.....	.....	23.2	— 4.9	98	E	.....	.....	1	.....	.....	.....	.....	0.220	5.6	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.1	29.99	760.9	41.4	5.2	71	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.93	760.3	30.02	762.5	33.1	0.6	82	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	29.91	759.6	29.94	760.4	38.5	3.6	93	ESE	.....	.....	2	.....	10	ESE	ESE	.....	.....	Light rain	Lt. Hercouet, Director
Saint Maur (near Paris)	29.87	758.7	30.04	762.9	27.9	— 2.3	86	NNE	.....	.....	1	.....	1	.....	ENE	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	28.82	731.9	29.93	760.1	42.8	6	77	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.23	742.5	29.96	760.9	36.0	2.2	75	W	.....	.....	1	.....	10	W	.....	0	0	Covered	M. Juliet Mercadier.
Tours, Observatory	29.77	756.1	29.97	761.1	39.2	4.0	77	NE	.....	.....	1	.....	5	.....	N	0	0	½ covered	Cousin-Marquet.
Versailles, Observatory	29.50	749.4	30.00	761.9	28.4	— 2.0	83	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.25	742.9	29.99	761.8	34.7	1.5	94	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	9.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.36	771.1	30.39	771.8	39.6	4.2	98	ENE	7.4	3.3	.....	.....	10	.....	.....	0.138	3.5	Covered	Marc Dechevrens.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.2	29.92	760.0	21.6 — 5.8		64	E			4		3s	E		0.016	0.4		Prof. Dr. Hoh.
Berlin	29.78	756.4	29.97	761.1	24.4 — 4.2		77	NW			5		5	N		0.071	1.8		Prof. Dr. Arndt.
Breslau	29.29	744.0	29.82	757.4	20.1 — 6.6		89	NW			3		4	N		0.091	2.31	Snow-flakes	Royal University Obs'y.
Carlsruhe	29.56	750.7	30.00	762.1	28.4 — 2.0		90	SSW			1		10	SW		0	0		Albert Senz.
Cassel	29.43	747.5	30.04	763.0	23.0 — 5.0		95	NE			2		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.72	755.0	30.10	764.6	29.7 — 1.3		59	NNE			3		7			0.106	2.7		Physical Society.
Friedrichshafen	28.47	723.2	29.97	761.2	32.5 0.3		74	W			1		9	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.03	762.8	30.10	764.6	18.7 — 7.4		83	NE			2					0.051	1.3	Snowing	Dr. Reinhold Kleeman.
Kiel	30.10	764.4	30.11	764.8	25.0 — 3.9		62	NE			1		6			0.014	0.36	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.76	755.8	29.85	758.1	14.9 — 9.5		93	SE			4		10			0	0		Prof. E. Luther.
Köslin			29.89	759.1	12.7 —10.7			Calm			0		0			0.205	5.2		H. Müller.
Leipsic Observatory	29.58	751.4	30.04	762.9	19.6 — 6.9		86	NNW			2		0			0.126	3.2		Prof. Dr. Bruhns, Privy Councelor
Magdeburg	29.83	757.6	30.06	763.4	21.4 — 5.9		74	NW			5					0.047	1.2	Snow-flakes	Dr. Assmann.
Memel	29.80	756.9	29.85	758.1	16.5 — 8.6		100	SSE			1		10n						Reinbrecht & Issermann.
Munich (München)	28.03	711.9	29.88	758.9	26.1 — 3.3		80	W			3		10			0.020	0.5	Snow-drifts.	Dr. C. Lang.
Neufahrwasser	29.82	757.4	29.84	757.8	25.9 — 3.4		70	W			2		7			0.079	2.0	Snowing	A. Lothes.
Neustadt (Palatinate)	29.47	748.6	30.00	762.0	29.8 — 1.2			NNW			2		7	N		0.075	1.9		Reallehrer Dicknether.
Posen	29.57	751.1	29.88	759.0	20.8 — 6.2		84	NE			2		5			0.047	1.2		Prof. Dr. Magener.
Strassburg (in Alsace)	29.46	748.3	30.04	763.1	28.8 — 1.8		92	Calm			0		10			0.011	0.29		Imp. University Observatory.
Stuttgart	29.00	736.6	30.00	761.9	26.6 — 3.0		74	NW					10			0.008	0.2		Prof. Dr. Schoder.
Thorn	29 71	754.6	29.89	759.3	19.2 — 7.1		94	Calm			0		4	W		0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.41	721.7	29.98	761.6	24.3 — 4.3		89	N	1.1	0.5			10			0.071	1.8	Snowing	Reallehrer J. Hopfner
Wustrow	30.04	762.9	30.06	763.5	23.9 — 4.5		98	NNE			5		10k			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.2	30.02	762.4	46.4	8.0		NW			2.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.84	758.0	29.89	759.3	74.2	23.4	74	WNW	18	8.0			6	WNW	WNW	0	0	D. clouds	
Deesa	29.43	747.4	29.90	759.5	79.7	26.5	23	SSW	11.8	5.3			1	S		0	0	D. clouds	
Bombay	29.90	759.4	29.94	760.5	76.1	24.5	78	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.06	712.8	29.90	759.4	85.7	29.8	17	WNW	3	1.3			0			0	0	Blue sky	
Belgaum	27.40	695.8	29.93	760.1	79.0	26.1	23	E	4	1.8			0			0	0	Blue sky	
Lahore	29.05	737.8	29.82	757.3	63.6	17.6	58	E	3.8	1.7			10			0	0	Overcast	
Roorkee	28.99	736.3	29.92	760.0	63.0	17.2	62	S	6.3	2.8			10			0	0	D. clouds	
Agra	29.31	744.6	29.89	759.2	70.7	21.5	49	E	7.1	3.2			6		E	0	0		
Nagpur	28.88	733.6	29.93	760.2	78.9	26.1	40	SSE	2.8	1.2			0			0	0	Blue sky	
Jubbulpore	28.55	725.2	29.95	760.8	67.7	19.8	50	N	1.7	0.8			0			0	0	Blue sky	
Lucknow	29.60	751.8	29.99	761.7	66.3	19.1	52	ESE	1.8	0.8			7	NW		0	0	D. clouds	
Allahabad	29.66	753.4	29.99	761.7	64.8	18.2	72	Calm	3.3	0.6			2			0	0	D. clouds	
Patna	29.84	758.0	30 03	762.8	68.0	20.0	60	ENE	0.5	0.0			4	ENE	ENE	0	0	D. clouds	
Hazaribagh	27.92	709.2	29.98	761.5	68.0	20.0	28	N	2.8	1.2			2			0	0		
Cuttack	29.88	759.0	29.96	761.1	76.4	24.7	67	SSW	1.1	0.5			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.0	29.98	761.5	70.7	21.5	77	NNW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.64	752.9	30.05	763.2	64.1	17.8	68	ENE	11.3	5.0			6	SW		0	0	D. clouds	
Chittagong	29.92	760.0	30.02	762.3	69.8	21.0	85	SSW	2.6	1.2			0			0	0	Misty	
Sibsagar	29.77	756.0	30.12	765.1	60.3	15.7	90	SW	2.1	0.9			5		SW	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.46	748.2	29.89	759.3	35.2	1.8	56	N	0.7	0.3	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.37	746.1	29.92	760.0	29.7	— 1.3	84	WSW	.....	.....	.....	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.79	756.6	29.91	759 6	29.3	— 1 5	88	NW	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.95	735.4	29.89	759.2	24.4	— 4.2	67	NE	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.66	753.4	29.86	758.5	44.2	6.8	60	Calm	0	0	.....	.....	10	SW	.....	0.012	0.3	.....	Prof. G. M. Garibaldi.
Mondovi	27.90	708.6	29.92	760.0	27.5	— 2.5	48	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.84	758.0	29.89	759.3	31.5	— 0.3	80	W	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.63	752.7	29.91	759.6	35.6	2.0	91	NE	.....	.....	2	.....	10	.....	.....	0.059	1.5	.....	Cav. F. Meucci.
Leghorn	29.78	756.4	29.87	758.7	37.0	2.8	86	ENE	5.6	2.5	.....	.....	5	.....	.....	0.346	8.8	.....	Prof. P. Monte.
Rome	29.71	754.7	29.90	759 4	40.6	4.8	86	E	11.2	5.0	.....	.....	8	.....	.....	0.197	5.0	.....	Prof. P. S. Ferrari
Lecce	29.75	755.7	30.02	762 5	45.3	7.4	39	SW	8.7	3.9	.....	.....	7	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.10	739.1	30.02	762.6	40.6	4.8	81	SW	0.7	0.3	.....	.....	10	.....	.....	1.114	28.3	.....	Prof. D. Conti.
Cagliari	29.74	755.3	29.94	760.5	49.6	9.8	80	W	.....	.....	2	.....	10	NW	.....	0.213	5.4	.....	Prof. A. Pacinotti.
Palermo	29.77	756.2	30.03	762.8	52.7	11.5	59	SW	16.1	7.2	.....	.....	5	.....	.....	0.051	1.3	.....	Prof. G. Ciacciatore.
Syracuse	29.98	761.6	30.03	762 7	52.5	11.4	73	WSW	6.3	2.8	.....	.....	8	W	.....	0.630	16.0	.....	Prof. V.G. Guiliano.
Sub-Series.																			
Naples, S. R.	29.40	746.8	29.95	760.6	43.5	6.4	82	NE	0.7	0.3	.....	.....	8	.....	.....	0.043	1.1	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	772.1	30.42	772.6	34.0	1.1	77	NNE	8.2	3.6	.....	2ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.14	765.5	30.36	771.1	40.6	4.8	80	NNE	1.0	0.4	.....	.....	10s	.....	.....	0.010	0.25	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.27	768.8	30.35	770.9	29.0	— 1.7	52	N	5.8	2.6	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Wakayama	30.38	771.6	30.43	772.9	32.9	0.5	75	ENE	5.1	2.3	.....	0	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	637.0	30.20	769.4	41.0	5.0	53	Calm	.....	.....	0	5c	0	.....	.....	0	0	⅛ clouded	Prof. L. Perez.
Leon	24.47	621.5	30.30	769.6	48.9	9.4	79	SW	.....	.....	2	7c	0	SW	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.69	754.1	29.95	760.8	68.0	20.0	86	E	.....	.....	1	3cs	0	SW	.....	0	0	Clear.	F. Quijano, C. E.
Mexico, Central Observatory	23 07	586.0	30.34	770.7	37.9	3.3	52	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.15	613.4	.....	.....	55.6	13.1	65	N	.....	.....	3	5c	3k	S	SW	0	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	23.98	609.2	30.09	764.2	46.8	8.2	69	W	.....	.....	1	1c	2s	SW	SW	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.51	597.1	30.59	777.0	35.6	2.0	44	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.3	30.46	773.3	40.5	4.7	60	E	.....	.....	1	3	2	W	E	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.10	764.4	30.11	764.7	68.0	20.0	90	N	.....	.....	1	2	7	N	NE	0.032	0.8	Raining	Prof. M. M. Châzaro
Vera-Cruz	30.11	764.7	30.13	765.4	69.8	21.0	82	Calm	0	0	.....	4k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.58	573.4	30.32	770.0	47.5	8.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Helder	30.01	762.3	30.01	762.3	32.9	0.5	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.08	764.0	30.13	765.4	41.0	5.0	.....	E	.....	.....	.....	.....	.....	.....	.....	0.024	0.6	.....	.....
Utrecht	30.09	764.2	30.09	764.2	27.7	— 2 4	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
	29.98	761.6	29.98	761 6	28.6	— 1.9	94	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
	30.03	762.7	30.08	763.9	29.8	— 1.2	84	ESE	.....	.....	2	.....	5	.....	.....	0.008	0.2	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	30.13	765.4	30.19	766.8	27.3	— 2.6	70	SSE	2.5	1.1			1			0	0		
Brŏno	30.11	764.9	30.15	765.9	24.8	— 4.0	60	SE	4	2			5			0.067	1.7		
Christiana	30.07	763.7	30.23	767.7	16.5	— 8.6	55	N	9	4			2			0	0		
Tromsŏ	29.94	760.4	29.98	761.5	25.2	— 3.8	84	SW	11	5			10			0.087	2.2	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Bar. corr. Inches	mm	Sea-level Inches	mm	Fahr.	Cent.	Hum.	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Lo'er	Dir. Upper	Lower	Rain Inches	mm	Weather	Observer
Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.03	737.3	30.04	763.0	54.3	12.4	74	SSW	10.5	4.7			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.92	760.0	30.01	762.2	63.6	19.2	55	SW	6.3	2.8			5			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.70	754.3	30.06	763.4	56.8	13.8	87	SSW	17.4	7.8			10	SW		0.047	1.2		The Staff.
Ponta Delgada (Azores)	29.52	749.9	29.60	751.7	62.8	17.0	73	SW	35.3	15.8			3			0.378	9.6		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Bar. corr. Inches	mm	Sea-level Inches	mm	Fahr.	Cent.	Hum.	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Lo'er	Dir. Upper	Lower	Sea or swell. Height scale 0-9	Direction from—	Weather	Observer
Bartholomew Dias																			A. G. d Silva Costa, Com'd't.
D. Fernando																			A. . Sande, Com'd't.
Duque da Terceira																			J. C M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Bulama, Bissago Islands, Africa					81.0	27.2		ESE			1		1		ESE	0		Blue sky	T. Pereira, 2nd Lieut.
Sâ da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A. de Brito Capello, Mossamedes, Lower Guinea			29.92	760.0	69.8	21.0		WNW			4		3		W	2	WNW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.24	768.2	57.0	13.8		NNE			2		10			1		Foggy	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Bar. corr. Inches	mm	Sea-level Inches	mm	Fahr.	Cent.	Hum.	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Lo'er	Dir. Upper	Lower	Rain Inches	mm	Weather	Observer
Archangel	30.05	763.2	30.07	763.7	—11.6	—24.2	84	E	4	2			10						Capt. Sseliwerstow.
Astrakhan	30.31	769.9	30.23	767.8	21.6	— 5.8	74	ESE	7	3			8s					Light clouds	Capt. Wisgauow.
Barnaul	30.23	767.7	30.82	782.8	—17.1	—27.3	91	Calm	0	0			0						Meteorological Obs.
Dorpat	29.68	753.8	29.95	760.7	— 4.0	—20.0	93	Calm	0	0			9k						Prof. Dr. Weihrauch.
Ekaterinburg	29.48	748.7	30.55	776.0	4.5	—15.3	93	SE	4	2			2s					Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	29.93	760.1	30.22	767.6	12.6	—10.8	94	S	18	8			10					Snow-drift	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.22	742.3	29.92	760.0	57.9	14.4	100	SSW	9	4			10n					Snow-fog	Physical Cabinet.
Krotkowo*	29.77	756.1	30.29	769.4	9.0	—12.8	72	S	9	4			10						Cand. Fatjanow.
Lugan	29.76	755.9	29.98	761.5	15.1	— 9.4	94	W	9	4			10			Blank	Blank		Meteorological Obs.
Moscow	29.45	747.9	30.05	763.2	7.9	—13.4	76	S	7.8	3.5			7ks					Light snow	Meteorological Obs.
Nertchinsk	28.30	718.8	31.10	790.0	—35.3	—37.4	79	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.01	762.1	30.08	763.9	9.5	—12.6	92	Calm	0	0			2s						Kurdakof.
Nukuss	30.12	765.1	30.38	771.6	15.8	— 9.0	97	ENE	11	5			10n						
Orenberg																			
Pekin (China)	30.49	774.5	30.63	778.1	20.7	— 6.3	41	NE	16	7			5cs						Physical Observatory.
St. Petersburg	29.89	759.1	29.90	759.5	7.3	—13.7	100	ESE	7	3			6kn					Light snow.	Central Physical Obs.
Tashkend	28.70	729.0	30.38	771.6	28.8	— 1.8	100	NE	4	2			10						Teich, A. M.
Tiflis	28.69	728.7	30.17	766.2	37.6	3.1	39	Calm	0	0		6c							Physical Observatory.
Vladivostock																			
Warsaw	29.37	745.9	29.82	757.4	18.5	— 7.5	83	E	4	2			10n					Light snow.	Astronomical Obs.
Wilna	29.39	746.4	29.84	757.8	18.9	— 7.3	79	Calm	0	0			10					Light snow.	Astronomical Obs.
Yeniseisk	30.72	780.3	31.07	789.1	—25.4	—31.9	79	S	2	1			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Bar. corr. Inches	mm	Sea-level Inches	mm	Fahr.	Cent.	Hum.	Wind from	Miles per hour	Meters per second	Force	Clouds Up'er	Lo'er	Dir. Upper	Lower	Rain Inches	mm	Weather	Observer
Barcelona, Met. Obs'y	29.81	757.2	29.92	759.9	47.8	8.8	61	WSW	5.2	2.33			5			0	0	½ covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.88	758.9	29.94	760.4	51.8	11.0	77	SE	1.4	0.61			10			0.240	6.1	Raining	Prof. Manuel de Naveran.
Burgos, Met. Obs'y	26.96	684.7			35.6	2.0	94	SW	7.3	3.27		0	0			0	0	Dense fog	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.6	30.02	762.5	44.6	7.0	92	W	15.7	7.00		0	10			0.087	2.2	Rainy	The Staff.
Murcia, Met. Obs'y	29.89	759.3	30.05	763.2	57.4	14.1	58	NW	2.4	1.06		0	3			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.97	735.7	29.86	758.5	53.2	11.8	96	SW	2.5	1.1			10			1.398	35.5	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.97	761.1	30.03	762.8	73.1	22.8	71	N	11.6	5.2		4k	6kn	NE	N	0	0	Cloudy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.97	761.2	30.02	762.5	79.3	26.3	80	NE	3.0	1.3			7ck		E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	763.0	30.14	765.5	61.2	16.2	66	WSW	2.1	0.9		2	3	E	E	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.85	758.3	29.95	760.6	72.7	22.6	94	SW	0	0		0	2k		W	0	0	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.02	762.5	30.06	763.5	— 2.2	—19.0	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.03	762.8	30.08	764.1	8.2	—13.2	92	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.03	762.8	30.08	764.1	17.2	— 8.2	71	NNW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.80	756.9	29.98	761 4	13.6	—10.2	93	NNW	.....	.....	2	.....	8	.....	.....	0.012	0.3	.....	
Wisby	29.79	756.7	29.85	758.2	20.8	— 6.2	95	NE	.....	.....	6	.....	10	.....	.....	0.091	2.3	Snowing	
Sub-Series.																			
Upsala	29.89	759.3	29.98	761.5	14.0	—10.0	76	NNW	12.3	5.5	.....	.....	10	.....	NNE	0.056	1.43	Snowing	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.5	29.97	761.3	34.5	1.4	93	N	.....	.....	2	.....	10	.....	.....	0.114	2.9	Covered	The Observatory.
Zurich	28.28	718.3	30.00	761.9	32.0	0.0	82	N	.....	.....	1	.....	7	.....	.....	0.024	0.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4 1 mm.; Thermometer, —0 1 Cent. Relative Humidity, +14 per cent

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.98	761.4	33.8	1.0	85	N	10	4.5	.....	.....	10	.....	N	.....	.....	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.2	48.0	8.9	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.06	763.4	61.9	16.6	58	SW	.....	.....	3	2c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B	29.88	758.9	29.94	760.5	25.5	— 3.6	94	E	1	0.4	.....	.....	10n	.....	.....	0.01	0.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.93	760.2	29.97	761.2	28.3	— 2.1	100	Calm	0	0	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.84	757.9	35.5	1.9	99	N	.....	.....	1	.....	10s	.....	.....	0.09	2.3	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.05	1.3	.....	H. A. Johnson.
Father Point, Quebec	29.90	759.4	29.92	760.0	26.5	— 3.1	94	E	3.0	1.3	.....	.....	10n	.....	.....	0.20	5.1	Threatening	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.93	760.2	30.0	— 1.1	95	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Prof. Harrison.
Fort Garry, Manitoba	28.95	735.3	29.84	757.9	11.3	—11.5	94	NW	3	1.3	.....	2ck	2ks	W	.....	0.08	2.0	Fair	James Stewart.
Granton, Ontario	28.81	731.8	29.94	760.5	35	1.7	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Light fog	James Grant.
Halifax, N. S	29.89	759.2	30.02	762.5	31.7	— 0.2	97	W	1	0.4	.....	.....	10n	.....	.....	0.03	0.8	Cloudy	A. Allison.
Hamilton, Ontario	29.57	751.1	29.95	760.7	35.7	2.1	94	E	.....	.....	1	2ck	0	E	.....	0.04	1.0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.54	750.3	29.89	759.2	35.7	2.1	92	NE	3	1.3	.....	.....	10n	.....	.....	0.17	4.3	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.95	760.7	29.99	761.7	33.4	0.8	96	S	5	2.2	.....	.....	10n	.....	.....	0.22	5.6	Raining	C. H. Rigby.
Montreal, Quebec	29.66	753.4	29.86	758.4	34.0	1.1	100	N	12	5.4	.....	.....	Fog	.....	.....	0.20	5.1	Dense fog	C. H. McLeod, C. E
Moose Factory, Ontario	29.88	758.9	29.92	760.0	— 1.0	—18.3	97	SE	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	J. R. Nelson.
Norwood	29.15	740.4	29.86	758.4	34.1	1 2	100	W	1	0.4	.....	.....	10s	.....	.....	0.07	1.8	Foggy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.19	741.4	29.90	759.4	33.0	0.6	100	E	1	0.4	.....	.....	10n	.....	SW	0.14	3.6	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.91	759.7	35.2	1.8	95	SW	.....	.....	1	0	0	.....	.....	0	0	Misty	J. F. Jeffers, M. A.
Port Dover, Ontario	29.22	742.2	29.93	760.2	35.0	1.7	100	Calm	0	0	.....	.....	Haze	.....	.....	0.02	0.5	Cloudy	H. Morgan.
Port Stanley, Ontario	29.29	744.0	29.96	761.0	35.4	1.9	96	W	2	0.9	.....	.....	Fog	.....	.....	0.08	0.8	Foggy	M. Payne.
Quebec, Quebec	29.59	751.6	29.92	760.0	30.0	— 1.1	100	Calm	.....	.....	0	.....	Fog	.....	.....	0.30	7.6	Dense fog	Capt. Ashe, R. N.
Rockliffe, Ontario	29.44	747.8	29.91	759.7	34.0	1.1	90	NE	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.76	755.9	29.93	760.2	36	2.2	100	SW	9	4.0	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
Saugeen, Ontario	29.20	741.7	29.94	760.5	34.5	1.4	89	SW	2	0.9	.....	.....	10s	.....	.....	0.03	0.8	Overcast	Miss K. Stewart.
Stratford, Ontario	28.62	726.9	29.94	760.5	33.5	0.8	99	Calm	0	0	.....	.....	Fog	.....	.....	0.06	1.5	Foggy	C. J. MacGregor, M. A
Sydney, C. B	29.93	760.2	29.97	761.2	33.9	1.1	96	SE	8	3.6	.....	.....	10n	.....	.....	0.21	5.3	Misty	T. C. Hill, C. E.
Toronto, Ontario	29.54	750.3	29.93	760.2	34.4	1.3	96	W	4	1.8	.....	.....	10ks	.....	.....	0.12	3.0	Cloudy	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	NW	1	0.4	.....	.....	.....	.....	.....	0	0	.....	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.84	732.5	29.91	760.5	34.0	1.1	97	N	6	2.7	.....	.....	10s	.....	.....	0	0	Overcast	Professor Wolverton.
Yarmouth, N. S	29.93	760.2	30.00	762.0	35.1	1.7	97	S	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.04	763.0	30.31	769.9	20	— 6.7	.....	N	.....	.....	.....	5k	10s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.08	764.0	30.2	— 1.0	.....	SE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1 015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.67	753.6	29.90	759.4	35	1.7	90	Calm	0	0	.....	.....	10s	.....	Calm	0.00	1.5	Cloudy	
Alpena, Michigan	29.24	742.7	29.90	759.4	32	0.0	89	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.91	734.3	30.07	763.8	47	8.3	77	NW	13	5.8	.....	0	0	.....	.....	0.03	0.8	Clear.	
Atlantic City, New Jersey	29.85	758.2	29.87	758.7	40	4.4	100	NE	2	0.9	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Augusta, Georgia	29.86	758.4	30.06	763.5	52	11.1	93	NW	4	1.8	.....	0	Fog	.....	Calm	0.01	0.3	Clear.	
Baltimore, Maryland	29.88	758.9	29.93	760.2	40	4.4	82	E	5	2.2	.....	2ck	5s	W	W	0.02	0.5	Fair	
Barnegat, New Jersey	29.84	757.9	29.86	758.1	39	3.9	100	S	7	3.1	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Bismarck, Dakota	27.91	709.7	29.80	756.9	37	2.8	71	W	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Boerne, Texas	28.70	729.0	30.02	762.5	55	12.8	93	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.11	688.6	30.07	763.8	33	0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.74	755.4	29.90	759.4	37	2.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Brackettville, Texas	28.97	735.8	30.02	762.5	61	16.1	94	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.83	732.3	29.87	758.7	22	— 5.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.10	764.5	30.14	765.5	69	20.6	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	30.19	766.8	29.90	759.4	37	2.8	90	W	3	1.3	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.56	750.8	29.86	758.4	38	3.3	91	S	6	2.7	.....	.....	10s;fg	.....	SW	0.02	0.5	Cloudy	
Cairo, Illinois	29.77	756.1	30.17	766.3	45	7.2	68	S	5	2.2	.....	0	0	.....	.....	0.31	7.9	Clear.	
Campo, California	27.43	696.7	30.00	762.0	34	1.1	90	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.86	758.4	29.87	758.7	51	10.6	93	N	5	2.2	.....	5k	2ks	SW	Calm	0.20	5.1	Cloudy	
Cape Henry, Virginia	29.86	758.4	29.87	758.7	47	8.3	92	SW	3	1.3	.....	.....	10ks	.....	SW	0.08	2.0	Cloudy	
Cape Lookout, N. Carolina	29.91	759.7	29.92	760.0	51	10.6	86	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape May, New Jersey	29.84	757.9	29.87	758.7	43	6.1	100	NW	7	3.1	.....	.....	10n	.....	NW	0.07	1.8	Light rain	
Castroville, Texas	29.37	746.0	30.08	764.0	59	15.0	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cedar Keys, Florida	30.05	763.3	30.07	763.8	62	16.7	94	NW	3	1.3	.....	0	2s	.....	NW	0	0	Fair	
Charleston, South Carolina	29.92	760.0	29.97	761.2	54	12.2	87	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.12	739.6	29.95	760.7	46	7.8	92	NW	7	3.1	.....	0	Sm'e	.....	Calm	0.04	1.0	Clear.	
Chattanooga, Tennessee	29.33	745.0	30.15	765.8	45	7.2	68	N	1	0.4	.....	0	Fog	.....	Calm	0.25	6.3	Clear.	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	37	2.8	31	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.23	742.4	29.94	760.5	38	3.3	63	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.45	748.0	30.12	765.0	41	5.0	65	NW	2	0.9	.....	0	1s	.....	Calm	0.12	3.0	Clear.	
Cleveland, Ohio	29.26	743.2	30.00	762.0	36.5	2.5	83	W	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Coleman City, Texas	28.34	719.8	30.06	763.5	42	5.6	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.21	741.9	30.07	763.8	40	4.4	65	NW	7	3.1	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Concho, Texas	28.21	716.5	29.94	760.5	41	5.0	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.68	753.9	30.16	766.1	50	10.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.28	743.7	29.93	760.2	34	1.1	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	38	3.3	81	.....	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Deadwood, Dakota	25.22	640.6	.....	.....	46	7.8	33	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.25	745.5	30.16	766.1	49	9.4	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.79	629.6	30.01	762.2	39	3.9	31	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.02	737.1	29.91	759.7	39	3.9	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.30	744.2	29.98	761.5	37	2.8	81	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.40	696.0	29.79	756.7	28	— 2.2	43	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.22	742.2	29.95	760.7	31	— 0.6	69	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.	
Duluth, Minnesota	29.06	738.1	29.75	755.6	30	— 1.1	78	SW	2	0.9	.....	0	2s	.....	Calm	0.03	0.8	Fair	
Eagle Pass, Texas	29.36	745.7	30.09	764.3	59	15.0	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.84	757.9	29.91	759.7	37	2.8	100	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	95	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.22	742.2	29.95	760.7	40	4.4	73	SW	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.15	740.4	29.81	757.2	35	1.7	70	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.08	764.0	53	11.7	67	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.71	703.8	29.55	750.6	36	2.2	80	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Fort Custer, Montana	26.66	677.2	.....	.....	34	1.1	79	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.27	641.8	30.23	767.8	43	6.1	59	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.58	751.3	30.13	765.3	41	5.0	57	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	50	10.0	40	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.85	732.8	30.17	766.3	39	3.9	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.10	688.3	.....	.....	33	0.6	79	W	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.87	707.9	29.80	756.9	52	11.1	93	SE	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.90	734.0	30.04	763.0	39	3.9	64	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.88	708.1	.....	.....	26	— 3.3	88	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	39	3.9	100	SW	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29.87	758.7	55	12.8	68	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.15	765.8	30.19	766.8	62	16.7	94	W	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Graham, Texas	29.06	738.1	30.17	766.3	30	— 1.1	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.24	743.2	29.92	760.0	38	3.3	81	S	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.16	740.7	30.12	765.0	41	5.0	74	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.25	742.9	30.06	763.5	35	1.7	80	W	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear.	
Indianola, Texas	30.16	766.1	30.18	766.6	63	17.2	100	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Clear.	
Jacksboro, Texas	28.94	735.1	30.10	764.5	45	7.2	61	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.02	762.5	30.04	763.0	55	12.8	87	W	3	1.3	.....	2cs	0	Calm	.....	0.11	2.8	Clear.	
Keokuk, Iowa	29.30	744.2	29.92	760.0	41	5.0	82	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Key West, Florida	30.02	762.5	30.05	763.3	70	21.1	80	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	48	8.9	93	NE	3	1.3	.....	5cs	2s	Calm	N	0	0	Fair.	
Knoxville, Tennessee	29.13	739.9	30.16	766.1	43	6.1	70	NW	1	0.4	.....	0	0	.....	.....	0.08	2.0	Clear.	
La Crosse, Wisconsin	29.11	739.4	29.86	758.4	36	2.2	71	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.16	664.4	30.32	770.1	40	4.4	48	Calm	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Laredo, Texas	29.79	756.7	30.12	765.0	69	20.6	30	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.13	739.9	29.99	761.7	38	3.3	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.84	757.9	30.22	767.6	45	7.2	76	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.59	751.6	29.94	760.5	48.0	8.9	63	NE	7	3.1	.....	0	1s	.....	Calm	0	0	Clear.	
Louisville, Kentucky	29.53	750.0	30.10	764.5	42	5.6	83	SW	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear.	
Lynchburg, Virginia	29.24	742.7	29.94	760.5	45	7.2	84	SW	2	0.9	.....	0	5ks	.....	Calm	0	0	Fair	
Madison, Wisconsin	28.86	733.0	29.86	758.4	35	1.7	80	S	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.07	738.4	29.77	756.1	37	2.8	81	SW	4	1.8	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Mason, Texas	28.81	724.1	30.31	769.9	48	8.9	70	W	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Memphis, Tennessee	29.82	757.4	30.17	766.3	48	8.9	70	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.14	740.1	29.88	758.9	34	1.1	90	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.14	765.5	30.18	766.6	63.5	11.9	96	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.95	760.7	30.19	766.8	40	0.4	93	NW	3	1.3	.....	0	0	.....	.....	0.82	20.8	Clear	
Morgantown, West Virginia	28.98	736.1	29.97	761.2	47	8.3	82	Calm	0	0	.....	5k	2s	W	Calm	0.56	14.2	Cloudy	
Mt. Washington, N. H.	23.56	598.4	29.92	760.0	30	— 1.1	89	Calm	0	0	.....	10k	8ks	Calm	Calm	0.05	1.3	Cloudy	
Nashville, Tennessee	29.64	752.8	30.19	766.8	43	6.1	67	Calm	0	0	.....	0	0	.....	.....	0.23	5.8	Clear	
New Haven, Connecticut	29.77	756.1	29.89	759.2	37	2.8	90	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New London, Connecticut	29.84	757.9	29.90	759.4	36	2.2	90	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	60	15.6	76	N	5	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.84	757.9	29.89	759.2	38	3.3	100	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New River, North Carolina	.....	.....	.....	.....	51	10.6	73	NW	.....	.....	1	.....	10s	.....	NW	.....	.....	Cloudy	
New York, New York	29.71	754.6	29.89	759.2	37	2.8	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Norfolk, Virginia	29.82	757.4	29.88	758.9	50	10.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
North Platte, Nebraska	27.05	687.1	29.71	754.6	29	— 1.7	67	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	39.5	4.2	91	N	5	2.2	.....	.....	10s	.....	Calm	0.37	9.4	Cloudy	
Omaha, Nebraska	28.74	730.0	29.86	758.4	36	2.2	80	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.58	751.3	29.90	759.4	41	5.0	82	W	4	1.8	.....	.....	10s	.....	W	0.11	2.8	Cloudy	
Pembina, Dakota	28.88	733.5	29.77	756.1	10	—12.2	100	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.15	765.8	30.18	766.6	57	13.9	94	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	29.83	757.7	29.88	758.9	35	1.7	100	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Phœnix, Arizona	28.80	731.5	30.61	777.5	55	12.8	56	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.79	451.9	30.01	762.2	14	—10.0	28	W	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.28	743.7	30.13	765.3	44	6.7	67	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	.....	.....	.....	.....	37	2.8	53	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.16	740.7	29.97	761.2	44	6.7	76	NW	3	1.3	.....	0	8s	.....	W	0.29	7.4	Fair	
Port Huron, Michigan	29.26	743.2	29.94	760.5	36	2.3	90	W	4	1.8	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Portland, Maine	29.84	757.9	29.90	759.4	39	3.9	91	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.94	760.5	30.01	762.2	45	7.2	88	NW	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	79	N	13	5.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Prescott, Arizona	24.79	629.6	30.15	765.8	40	4.4	73	S	.....	.....	1	.....	10ks	.....	Calm	0	0	Cloudy	
Punta Rassa, Florida	30.05	763.3	30.06	763.5	61	16.1	88	N	8	3.6	.....	1c	0	W	.....	0	0	Clear	
Red Bluff, California	29.58	751.3	29.95	760.7	39.5	4.2	78	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.04	760.5	30.16	766.1	63	17.2	94	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.26	743.2	29.89	759.2	39	3.9	91	W	8	3.6	.....	.....	Fog	.....	Calm	0.09	2.3	Foggy	
Roseburg, Oregon	29.41	747.0	29.99	761.7	39	3.9	95	E	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Sacramento, California	29.82	757.4	29.90	759.4	40	4.4	100	NW	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy	
St. Louis, Missouri	29.46	748.3	30.04	763.0	44	6.7	82	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.95	735.3	29.79	756.7	34	1.1	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	32	0.0	40	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.45	748.0	30.04	763.0	61	16.1	94	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.94	760.5	30.01	762.2	51	10.6	66	NE	4	1.8	.....	0	5ks	.....	SW	0	0	Fair	
Sandusky, Ohio	29.33	745.0	30.02	762.5	40	4.4	73	W	13	5.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	29.86	758.4	29.89	759.2	36	2.2	100	N	11	4.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
San Francisco, California	29.82	757.4	29.88	758.9	48	8.9	85	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	25	— 3.9	26	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.93	760.2	30.02	762.5	55	11.7	80	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.97	761.2	30.19	766.8	45	7.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.92	760.0	29.95	760.7	60	10.0	79	NW	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Socorro, New Mexico	25.51	647.9	29.57	751.1	38	0.6	42	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.34	745.2	30.03	762.7	38	3.3	72	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.76	755.9	29.89	759.2	35	1.7	90	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Stockton, Texas	27.08	687.8	30.08	764.0	50	10.0	26	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.83	757.7	29.88	758.9	38	3.3	100	SW	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
Toledo, Ohio	29.30	744.2	30.00	762.0	40	4.4	65	SW	8	3.6	.....	5k	0	W	.....	0	0	Fair	
Tucson, Arizona	27.54	699.5	30.09	764.3	52	11.1	53	S	2	0.9	.....	0	2s	.....	S	0	0	Fair	
Umatilla, Oregon	29.04	752.8	30.15	765.8	35.0	1.7	70	SE	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
Uvalde, Texas	29.23	742.4	30.05	763.3	60	15.6	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Vicksburg, Mississippi	29.96	761.0	30.23	767.8	51	10.6	65	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	29	— 1.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.49	749.0	29.87	758.7	39	3.9	86	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.80	756.9	29.91	759.7	39	3.9	91	N	3	1.3	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	48	8.9	70	SE	.....	.....	1	.....	10ks	.....	S	Inap.	Inap.	Cloudy	
Wilmington, North Carolina	29.84	757.9	29.92	760.0	50	10.0	79	NW	2	0.9	.....	8ck	2s	Calm	Calm	Inap.	Inap.	Cloudy	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	24	— 4.4	74	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.84	757.9	29.88	758.9	41	5.0	91	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.58	725.9	29.90	759.4	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.81	757.2	29.96	761.0	53	11.7	42	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.93	760.2	29.98	761.5	74	23.3	72	N	6.0	2.7	.....	0	4ks	.....	N	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	74	23.3	90	Calm	0	0	.....	2c	5cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.86	758.4	29.94	760.5	74	23.3	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Gulana, S. A	29.90	759.4	29.90	759.4	77	25.0	91	E	.....	.....	2	.....	8ks	.....	.....	0.150	3.81	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	29.94	760.5	29.96	761.0	75	23.9	81	Calm	0	0	.....	4c	4s	.....	NE	0	0	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.04	763.0	30.10	764.5	—29.0	—33.9	.....	W	12	5.4	.....	0	0	.....	.....	0.15	3.8	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,780 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft ; or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla	30.27‡	768.8‡	.....	.....	60	15.6	88	N	3	1.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H.	30.15‡	765.8‡	.....	.....	36	2.2	80	WNW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, S. 27° 59′, W. 71° 20′	29.92‡	760.0‡	.....	.....	65	18.3	78	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	SW	Hazy	
Colorado, New York, N. Y.	29.86‡	758.4‡	.....	.....	37	2.8	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	.....	.....	Dense fog	
Constitution, Fredericksted, Santa Cruz, W. I.	29.90‡	758.4‡	.....	.....	78	25.6	82	SE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear.	
Enterprise. Piraeus, Greece	30.00‡	762.0‡	.....	.....	48	8.9	70	NNW	.....	.....	4	.....	4	.....	N	.....	.....	Smooth	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.89‡	759.2‡	.....	.....	49	9.4	85	SW	6	2.7	.....	.....	10	.....	SW	0.01	0.3	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	29.98‡	761.5‡	.....	.....	46	7.8	84	E	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Kearsarge, Key West, Fla	30.05‡	763.3‡	.....	.....	71	21.7	85	NNW	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.	
Lackawana, N. 32° 13′, W. 156° 25′	30.38‡	771.6‡	.....	.....	67	19.4	89	ESE	.....	.....	5	.....	10	.....	E	.....	.....	Mod'ate	E	Cloudy	
Marion, S. 3° 35′, W. 36° 04′	29.91‡	759.7‡	.....	.....	82	27.8	79	ESE	.....	.....	3	.....	1	.....	ESE	0	0	Smooth	ESE	Clear.	
Michigan. Erie, Pa	29.89‡	759.2‡	.....	.....	40	4.4	56	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.40‡	772.1‡	.....	.....	40	4.4	91	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡	.....	.....	54	12.2	93	W	9	4.0	.....	.....	1	.....	Calm	0	0	.....	.....	Clear.	
Nipsic, N. 12° 36′, W. 65° 28′	29.90‡	759.4‡	.....	.....	76	24.4	95	E	.....	.....	4	.....	5	.....	E	.....	.....	Light	E	D. clouds	
Onward, Callao, Peru	29.90‡	759.4‡	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Palos, Tientsin, China	30.62‡	777.7‡	.....	.....	20	— 1.7	100	NNE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Passaic, Washington, D. C.	29.93‡	760.2‡	.....	.....	40	4.4	82	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.87‡	758.7‡	.....	.....	67	19.4	95	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.94‡	760.5‡	.....	.....	40	4.4	91	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	.....	Foggy	
Quinnebaug, Leghorn, Italy	29.85‡	758.2‡	.....	.....	42	5.6	83	E	.....	.....	2	.....	5	.....	WSW	.....	.....	.....	.....	Fair	
Ranger, N. 32° 15′, W. 152° 15′	29.40‡	746.7‡	.....	.....	62	16.7	77	ENE	.....	.....	3	.....	5	.....	NE	.....	.....	Smooth	.....	Fair	
Richmond. Hong-Kong, China	29.21‡	741.9‡	.....	.....	63	17.2	78	WNW	.....	.....	0–1	.....	0	.....	.....	.....	.....	Smooth	.....	Misty	
Rio Bravo, Brownsville, Texas	29.28‡	743.7‡	.....	.....	62	16.7	100	SE	1	0.4	.....	2	5	Calm	S	0	0	.....	.....	Fair	
Santee. Annapolis, Md	29.93‡	760.2‡	.....	.....	39	3.9	91	NNE	.....	.....	1	.....	10	.....	SW	0.01	0.3	.....	.....	Overcast	
Shenandoah, Montevideo, Uruguay	29.92‡	760.0‡	.....	.....	69	20.6	70	E	.....	.....	1	.....	5	.....	E	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa	29.91‡	759.7‡	.....	.....	36	2.2	90	NE	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Tennessee, Hampton Roads, Va.	29.89‡	759.2‡	.....	.....	47	8.3	92	SW	4	1.8	.....	.....	10	.....	NE	0.04	1.0	.....	.....	Hazy	
Trenton, Villafranca, France	29.85‡	758.2‡	.....	.....	58	14.4	82	S	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Tuscarora. N. 13° 07′, W. 88° 30′	29.94‡	760.5‡	.....	.....	79	26.1	70	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass	29.84‡	757.9‡	.....	.....	36	2.2	90	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	.....	Clear	
Wyoming, Toulon, France	29.85‡	758.2‡	.....	.....	50	10.0	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 43° 58′, W. 63° 54′		30.01‡	762.2‡				SW			1		10?		NNE		Smooth		Fair?.	W. E. Jago.
S. S. Circassian, N. 54° 39′, W. 22° 30′		30.10‡	764 5‡	47	8.3	63	ENE			2		10		SE		Mod'ate	SE		R. Carruthers.
S. S. Hibernian, F. Archer, N. 49° 57′, W 41° 49′		29 84‡	757.9‡	46	7.8		N			5		8		N		Mod'ate	N;SE	Cloudy	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 50° 32′, W. 33° 39′		29.99‡	761.7‡	53	11.7		SE			5		8		SE	Mod'ate	Mod'ate	SE	Fair	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.																			
S. S. Braunschweig, C. Undutsch.																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 39° 09′, W. 66° 00′		30.04‡	763.0‡	58.0	14.4	88	ESE			3		8		SE	0	Smooth	ESE	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, N. 37° 18′, W. 28° 04′		29.54‡	750.3‡				W			6		8		WSW		Rough	W	Cloudy	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 37° 09′, W. 125° 34′...†		29.72‡	754.9‡	58	14.4	76	NW			2		10		NW		Mod'ate	NW	Dense fog.	D. A. Joyce.
S. S. Gaelic, Davidson, N. 23° 58′, E. 118° 14′...†		30.10‡	766.8‡	57	13.9		NE			4		8s			Slight	Mod'te	NE	Misty.	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander...																			
S. S. Idaho, E. Alexander...																			
S. S. Orizaba...																			
S. S. State of California, G. Dabney...																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Yokohama, Japan †		29 98‡	761.5‡	43	6.1	75	NNW			5		0			0	Smooth		Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 15° 42′, W. 159° 31′		29 88‡	758.9‡				E			6				NE		High	N	Squally	
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 14′, W. 10° 30′ *.		30.31‡	769.9‡	62	16.7		N			4		10		N		Long	WSW	Fair.	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 23° 53′, W. 66° 10′ †.		30.03‡	762.7‡	74	23.3		Calm			0		2		E		Moderate Smooth	ESE	Clear.	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d. f. p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 19, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco			30.09	764.3				W			1		0			0	0	Clear	
Nemours			30.11	764.8	64.4	18.0	77	E			1		0			0	0	Clear	Kesxuche.
Algiers			30.10	764.6	67.2	14.0	58	WSW			4		1			0	0	Very fair	Tourillere.
La Calle			30.04	763.1	59.7	15.4	71	NNW			2		7			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Stax																			Gau.
Saida			30.11	764.9															Herbin.
Tebessa			30.12	765.1															
Geriville			30.17	766.4	57.4	14.1	44	W			4		6			0	0	Cloudy	Watrin.
Laghouat								N			1		1			0	0	Very fair	Brugnlaux.
Biskra			30.20	767.1	59.7	15.4	68	NNW			2		0			0	0	Clear	Bertrand.
			30.14	765.5	61.2	16.2	42	WNW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 8907 meters, or 2,9207 feet; Tebessa, 1,0887 m., or 3,5707 feet; Geriville 1,3607 m., or 4.4627 feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Agram	29.61	752.1	30.21	767.3	19.9	— 6.7	90	NE			3		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.33	744.9	30 16	766.0	18.0	— 7.8	100	WSW	3.8	1.7			10			0.012	0.3		Dr. Wierzbicki.
Eperies	29.13	739.8	30.08	764.1	16.3	— 8.7	85	Calm			0		9ca;8			0	0		Julius Mikolik.
Gratz	28.89	733.8	30.24	768.2	20 1	— 6.6	68	SW			3		0			0.059	1.5		Andreas Rospini.
Hermannstadt	28.52	724.3	30.05	763.2	21.6	— 5.8	93	SSE			2		10			0.039	1.00	Snowing	Prof. A. Gottschling
Kremsmünster	28.84	732.6	30.32	770.1	13.5	—10.3	93	Calm			0		6			0.236	6.0		Prof. C. Wagner.
Lemberg	28.80	735.5	30.02	762.5	18.9	— 7.3	98	NW			1		10			0.047	1.2		Dr. T. Stanecki.
Pola	29.95	760.6	30.07	763.7	32.0	0.0	63	E			4		0			0	0		I.R.Hydrographic Office
Szathmar	29.63	752.7	30.14	765.6	18.6	—10.2	90	W			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.85	758.2	30.15	765.9	17.6	— 8.0		W			2		3			0	0		Karl Stancel.
Trieste	29.99	761.8	30.10	764.4	30.7	— 0.7	64	ENE			3		0			0	0	Clear	P. Busin.
Vienna	29.48	748.8	30.31	767.4	19.2	— 7.1	67	NW			2		3			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Arlon																			Prof. M. Passau.
Brussels	30.23	767.8	30.45	773.4	17.4	— 8.1	78	E			1		0			0	0		Royal Observatory
Furnes	30.46	773.6	30.48	774.2	26.1	— 3.3	9	SE			4		0			0	0		M. E. de Cae.
Maeseyck	30.34	770.5	30.46	773.7	13.1	—10.5	97	ENE			2		0			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.40	772.1	30.50	774.7	34.6	1.4		W	2	0.9			2			Blank	Blank	Blue sky	W. Boswell.
Ardrossan	30.60	774.7	30.52	775.2	32	0.0		E			1		0					*Foggy*	*G. Carrick.*
Armagh, (Observatory)	30.24	768.1	30.48	774.2	37.0	2.8		ESE	12	5.4			0					Blue sky	S. Call.
Bidston (Liverpool Obs)			30.50	774.7	31	— 0.6		ESE	12	5.4			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.94	760.5	30.47	773.9	30.0	— 1.1		ESE					0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	30.09	764.3	30.49	774.4	30.6	— 0.8	81	NW			1		5			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.86	758.4	29.89	759.2	81	27.2		NE			2		2					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.38	771.6	30.48	774.2	31.6	— 0.6		E			1		5					D. clouds	H. Todd.
Cardington			30.48	774.2	29.4	— 1.4		E			1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.35	770.9	30.49	774.4	29.2	— 1.6		W			2		8k					D. clouds	W. Gibson, Sapper, R.E
Dorchadee	30.47	773.9	30.52	775.2	37	2.8		SSE			3		5					D. clouds	J. Mac Gowan.
Dover	30.41	772.4	30.45	773.4	28	— 2.2		E			5		2					¼ clouded	J. Costello.
Falmouth (Observatory)	30.08	744.0	30.32	770.1	38 0	3.3		ENE			6		10					*Foggy*	The Staff.
Fort Napier, Natal	27.55	699.8	29.77	756.1	84.6	29.		NE			2		0					Blue sky	Corp'l H. Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.38	771.6	37.5	3.1		E			2		0			0.02	0.5	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.31	769.9	30.52	775.2	29.0	— 1.7		E			1		10			Blank	Blank	Overcast	*D. G. Maclean.*
Great Yarmouth	30.48	774.2	30.49	774.4	30	— 1.1		E			3		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.28	769.1	30.46	773.7	30.2	— 1.0		E			4		4					D. clouds	The Staff, for G.B. Airy.
Guernsey	30.06	763.5	30.29	769.4	36	2.2		ENE			3		8					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.41	772.4	30.55	776.0	40	4.4		E			3		3k			0	0	Fair	M. P. Moyle.
Holyhead	30.38	771.6	30.46	773.7	35	1.7		ESE			4		0					Blue sky	John Tilston.
Jersey	30.02	762.5	30.32	770.1	33.0	0.6		E			4		9					Misty	J. Fisher.
Kew (Observatory)	30.42	772.7	30.46	773.7	29.2	— 1.6		ENE	27	12.1			5					Misty	The Met'g'l Office.
Leicester (Museum)	30.22	767.6	30.50	774.7	32.1	0.1		SW			2		0			Blank	Blank	Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.90	759.4	29.98	761.5	60	15.6		SW			2		1k					Blue sky	A. King.
Nairn	30.38	771.6	30.48	774.2	29	— 1.7		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.03	762.7	70.2	21.2		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.34	770.6	30.54	775.7	31.2	— 0.4		E			1		1k		E	0.013	0.33	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.93	760.2	30.49	774.4	31.2	— 0.4		ENE			3		1					Blue sky	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.22	767.6	30.48	774.2	29	— 1.7		E			2		1					Blue sky	H. E. Bellamy.
Plymouth	30.24	768.1	30.32	770.1	34.2	1.2		ENE			4		0					Foggy	John Merrifield.
*Roche's Point	30.26	768.6	30.34	770.6	42	5.6		ESE			6		10					Overcast	Wm. Kennedy.
St. Ann's Head	30.21	767.3	30.38	771.6	35	1.7		E			4		0					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.43	772.9	38.9	3.8		SW	18	8.0			4					D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	29.94	760.5	30.01	762.2	39 0	3.9		SSE			1		9			Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	30.23	767.8	30.53	775.4	31.5	0.3		Calm			0		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.50	774.7	30.53	775.4	34.2	1.2	77	Calm			0		0			0	0	Blue sky	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			30.49	774.4	29.3	— 1.5		NE	5	2.2			0					Blue sky	Rev. S. J. Perry.
Stratfield, Turgiss					30.0	— 1.1		NE			3		0					Blue sky	Rev. C.H. Griffith, F.M.S.
Truro (Royal Institution)	30.28	769.1	30.36	771.1	39	3.9		E			4		7					D. clouds	W. Newcombe.
Valencia (Observatory)	30.26	768.6	30.29	769.4	42.0	5.6		ENE	20	8.9			8					Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	79.5	26.4	67	S	30.3	13.5		0	1c8			0	0		*The Staff, for D. Gill.*
Colesberg Bridge, Cape Col.	25.54	648.7			91	32.8		N				2c	3c						Robert Burnet.
Constable, Cape Colony	26.76	697.7			82	27.8		SW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			30.08	764	61.7	16.5		SE			Calm		Heavy			0	0	Dull	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.98	761.6	80.3	26.8	69	ESE	21.0	9.4		2	6		E	0.46	11.7	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.79	756.6	29.88	758.9	64.6	17.8	85	WSW	5	2.2			5			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.50	774.7	41	5.0		S			4	0	3			0	0		
North Unst, Shetland Is			30.26	768.6				W			6	5	5	N		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m.* The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather	Observer
H. M. S. Alert, Tilly Bay, Patagonia			Showery	Capt. A. J. Brown
City of Agra, S. 53° 10′, W. 126° 10′			Raining	Capt. Thos. Young.
City of Cashmere, S. 55° 10′, W. 63° 50′			Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 35° 20′, W. 36° 30′			Showery	Capt. Jas. Buchan.
Barque Dochra, S. 36° 38′ W. 123° 29′			D. clouds	Capt. N. Spalding.
Barque Fedalma, N. 48° 25′, W. 22° 25′			D. clouds	Capt. H. L. Fox.
Bqte Fylde, N. 45° 15′, W. 17° 25′			D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, Off Windsor Point, Bahama Islands			D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 3° 35′ E. 85° 33′			Raining	Capt. W. P. Hughes.
S. S. Strathleven, N. 34° 50′, E. 21° 45′			Squally	Capt. C. W. Pearson.
S. S. Sunbeam				Capt. O M. Dobson.
S. S Ethiopia				Capt. A. Campbell.
S. S. Decapolis				Capt. T. M. Almond.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

by authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760 2	59.4	15.2	80	SE	.....	.....	2	2c	.....	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.27	768.8	30.32	770.0	22.8	— 5.1	66	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	
Farõe	30.37	771.3	30.39	771.8	.....	.....	.....	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	30.20	767.0	30.24	768.1	35.2	1.8	96	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	
Thorshavn (Farõe)	30.25	768.4	30.29	769.3	39.6	4.2	90	W	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Vestervig	30.28	769.0	30.39	771.8	25.7	— 3.5	60	NW	.....	.....	2	.....	4	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.75	755.7	30.30	769.7	30.2	— 1	96	E	.....	.....	1	.....	0	.....	.....	0.16	4.	Clear	Collignon, Director.
Amiens, Normal School	30.30	769.6	30.42	772.7	26.6	— 3	78	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.17	766.2	30.44	773.2	20.8	— 6.2	77	E	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Klein, Commandant.
Avignon, Normal School	29.93	760.3	30.01	762.3	37.6	3.1	57	N	.....	.....	4	.....	5	.....	.....	0	0	½ covered	Giraud, Director.
Bar-sur-Seine	29.71	754.7	30.32	770.0	20.1	— 6.6	79	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.11	764.7	30.38	771.7	24.4	— 4.2	75	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.32	744.7	30.27	768.9	27.3	— 2.6	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	29.83	757.6	30.02	762.6	39.2	4.0	64	NE	.....	.....	2	.....	2	.....	.....	0.008	0.20	Slightly cl'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.32	744.6	30.22	767.6	19.8	— 6.8	94	N	.....	.....	1	.....	10cn	N	.....	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.70	754.3	30.28	769.2	31.5	— 0.3	84	NE	.....	.....	3	.....	0	.....	.....	0	0	Misty	M. Gence, Director.
Brest, Naval Observatory	29.98	761.6	30.23	767.8	41.0	5.0	71	NE	.....	.....	2	.....	0	.....	.....	0.128	3.25	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.21	767.2	30.28	769.1	35.8	2.1	61	NE	.....	.....	1	.....	1	.....	NE	0	0	Clear	M. Bletrin, Director.
Carcassonne, N. School	29.53	750.1	29.95	760.8	43.3	6.3	58	SE	.....	.....	2	.....	10	W	SE	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	30.03	762.8	30.38	771.6	21.7	— 5.7	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.71	754.0	30.32	770.0	29.3	— 1.5	53	NE	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.73	729.6	30.16	766.0	29.5	— 1.4	84	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.39	746.6	30.33	770.4	17.6	— 8	.....	ENE	.....	.....	1	.....	1	.....	ENE	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	28.82	732.1	29.97	761.1	45.7	7.6	48	E	.....	.....	1	.....	8	.....	E	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.32	744.7	30.13	765.3	32.4	0.2	.....	ENE	.....	.....	1	.....	8kn	.....	.....	0	0	Very cloudy	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.95	760.6	30.17	766.4	33.1	0.6	88	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.96	760.9	30.28	769.2	31.5	— 0.3	66	NNE	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.22	742.1	30.17	766.2	18.5	— 7.5	53	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Baudry, Director
Lorient, Naval Observatory	30.10	764.5	30.21	767.3	38.5	3.6	63	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.53	750.0	30.19	766.8	25.5	— 3.6	77	ENE	.....	.....	1	.....	5	.....	NNE	0	0	Cloudy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.67	753.5	29.94	760.4	47.3	8.5	62	W	.....	.....	1	.....	8	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.18	741.1	30.31	769.9	18.0	— 7.8	83	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Barbier, Director.
Mont-Louis	24.65	626.2	29.97	761.2	28.4	— 2.0	90	WSW	9.4	4.2	.....	.....	10	.....	N	0.051	1.3	Snowing	M. Cave
Nice	29.92	760 0	29.96	760.9	49.3	9.6	50	E	.....	.....	3	.....	10	E	E	0	0	Covered	M. Boissière, Director.
Nismes, Normal School	29.79	756.6	30.00	762.0	39.0	3.9	65	N	.....	.....	3	.....	cn	.....	NW	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	30.00	763.4	.....	.....	26.2	— 3.2	59	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.88	759.0	30.00	761.9	42.8	6.0	78	E	5.6	2.5	.....	.....	10	.....	.....	0.024	0.6	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P	22.50	566.5	.....	.....	28.6	- 2.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	SW	0.461	11.7	.....	Gen'l de Nansouty
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Puy de Dome (Summit) Obs	29.00	736.6	30.11	764.9	36.5	2.5	81	N	.....	.....	1	.....	1	N	N	0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.92	635.5	.....	.....	19.4	— 7.0	87	E	.....	.....	3	.....	2	.....	E	0	0	¼ covered	Alluard, Director.
Rouen, Normal School	30.07	763.8	30.10	764.6	36.9	2.7	63	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.27	768.8	30.35	771.0	30.9	— 0.6	89	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.24	768 2	30.27	768.9	34.3	1.3	76	ENE	.....	.....	3	.....	1	NE	NE	0.037	1.48	Clear	E. Renou, Director.
Tarbes, Normal School	30.18	766.5	30.34	770.7	27.1	— 2.7	56	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	28.80	731.4	29.95	760.8	39.2	4	100	W	.....	.....	1	.....	.....	.....	.....	0.002	0.04	.....	M. Juliet Mercadier.
Tours	29.30	744.2	30.02	762.6	37.8	3.2	78	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Cousin-Marquet.
Versailles, Observatory	30.02	762.6	30.22	767.6	30.6	— 0.8	.....	E	.....	.....	2	.....	1	.....	.....	0	0	Almost clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.82	757.5	30.32	770.0	25.9	— 3.4	61	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Nicot, Director.
Sub-Series.	29.48	748.9	30.25	768.3	27.9	— 2.3	98	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	
Fort de France, Martinique	29.89	759.3	29.92	760.0	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.48	774.2	30.51	774.9	38.5	3.6	87	ENE	7.2	3.2	.....	0c	.....	NE	.....	0.059	1.5	Cloudy	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local ti ne. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis. 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.45	747.9	30.32	770.0	0.9	—17.3	73	E			4	ck	3s	E		0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.12	765.1	30.31	769.9	21.9	— 5.6	70	NW			4		0			0	0		Prof. Dr. Arndt.
Breslau	29.67	753.6	30.21	767.2	18.0	— 7.8	86	WNW			3		4			0.052	1.31		Royal University Obs'y.
Carlsruhe	29.91	759.6	30.37	771.5	15.8	— 9.0	80	NE			3		0			0	0		Albert Senz.
Cassel	29.76	756.0	30.38	771.6	10.0	—12.2	86	SE			1		2	S		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.10	764.5	30.48	774.3	15.6	— 9.1	57	NE			2		2			0	0		Physical Society.
Friedrichshafen	28.74	730.1	30.31	769.8	15.1	— 9.4	59	NE			6		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.33	770.4	30.40	772.2	22.8	— 5.1	83	N			2		9			0	0		Dr. Reinhold Kleeman.
Kiel	30.37	771.3	30.38	771.7	23.9	— 4.5	75	NW			2		10			0.006	0.16	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.02	762.4	30.11	764.7	11.7	—11.3	92	SE			2		10			0.094	2.4	Snowing	Prof. E. Luther.
Köslin			30.18	766.5	25.0	— 3.9		Calm			0		1			0	0		H. Müller.
Leipsic Observatory	29.92	759.9	30.38	771.6	17.2	— 8.2	85	NNW			2		7	NW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.14	765.6	30.37	771.5	20.5	— 6.4	71	NNW			4		0			0.004	0.1	Clear.	Dr. Assmann.
Memel	30.07	763.8	30.12	765.0	11.7	—11.3	100	E			3		10k						Reinbrecht & Issermann.
Munich (München)	28.36	720.4	30.24	768.0	4.8	—15.1	82	N			1		0			0.043	1.1	Light fog.	Dr. C. Lang.
Neufahrwasser	30.09	764.3	30.11	764.7	20.1	— 6.6	73	SSE			1		10			0.646	16.4		A. Lothes.
Neustadt (Palatinate)	29.83	757.6	30.36	771.1	20.3	— 6.5		NNE			3		2	N		0	0		Reallehrer Dicknether.
Posen	29.89	759 3	30.21	767.2	20.3	— 6.5	90	NW			8		1			0.024	0 6		Prof. Dr. Magener.
Strassburg (in Alsace)	29.78	756.3	30.38	771.6	17.4	— 8.1	79	NE			3		0			0	0		Imp. University Observatory.
Stuttgart	29.34	745.2	30.37	771.4	14.9	— 9.5	77	NE					0			0	0		Prof. Dr. Schoder.
Thorn	29.57	761.1	30.15	765.9	22.6	— 5.2	85	NW			4		10			0.000	0.16		Dr. Cunerth.
Weissenburg (Bavaria)	28.75	730.2	30.34	770.6	4.3	—15.4	86	Calm	0	0						0.008	0.2	Dense fog.	Reallehrer J. Hopfner
Wustrow	30.32	770.0	30.34	770.6	24.6	— 4.1	89	N			4		10k			0.020	0.5		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.55	750.5	29.95	760.6	54.3	12.4		SE			3.0		10					Covered	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.88	759.0	29.93	760.3	75.7	24.3	69	WSW	9	4.0			0			0	0	Blue sky	
Deesa	29.46	748.2	29.94	760.5	75.8	24.3	58	WNW	9.4	4.2			1	W		0	0	D. clouds	
Bombay	29.94	760.4	29.98	761.4	75.2	24.0	79	NW	12	5.4			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.3	29.94	760.5	79.6	26.4	16	WNW	17	7.6			0			0	0	Blue sky	
Belgaum	27.39	695.8	29.92	760.0	79.8	26.6	27	W	6	2.7			0			0	0	Blue sky	
Lahore	29.13	739.8	29.90	759.5	58.6	14.8	54	E	4.2	1.9								Drizzling	
Roorkee	28.98	736.2	29.92	760.0	59.8	15.4	79	SE	9.5	4.2			9			0.11	2.8	D. clouds	
Agra	29.29	744.0	29.88	758 8	65.8	18.8	64	E	5.8	2.6			8		E	0	0		
Nagpur	28.88	733.5	29.93	760.1	78.1	25.6	47	S	3.3	1.5			0			0	0	Blue sky	
Jubbulpore	28.53	724.7	29.91	759 8	75.2	24.0	37	Calm	3.6	1.6			6			0	0	D. clouds	
Lucknow	29.54	750.3	29.93	760.3	62.3	16.8	80	ESE	4.3	1.9			10			0	0	Overcast	
Allahabad	29.61	752.1	29.93	760.2	68.8	20.4	75	NE	2.9	1.3			10			0	0	Overcast	
Patna	29.80	756.9	29.99	761.7	69.9	21.1	53	E	0.9	0.4			6	E	E	0	0	D. clouds	
Hazaribagh	27.90	708.6	29.94	760.4	71.8	22.1	51	SE	6.3	2.8			5			0	0		
Cuttack	29.90	759.4	29.98	761.6	78.0	25.6	56	SW	1.0	0.4			1			0	0	Blue sky	
Calcutta (Alipore)	29.97	761.2	29.99	761.8	71.7	22.1	82	WSW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.61	752.2	30.02	762.4	66.9	19.4	60	ESE	8.6	3.8			3	WNW		0	0	D. clouds	
Chittagong	29.92	760.0	30.02	762.4	72.6	22.6	76	NW	2.5	1.1			1			0	0		
Sibsagar	29.73	755.2	30.08	764.2	62.4	16.9	86	NE	1.5	0.7			8	W	W	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.2	30.13	765.3	30.4	— 0.9	40	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.56	750.7	30.11	764.7	31.3	— 0.4	94	NNE	.....	.....	.....	.....	9	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.02	762.6	30.14	765.6	29.7	— 1.3	59	NNE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.9	30.07	763.7	28.4	— 2.0	75	NNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.80	757.0	30.00	762.1	40.3	4.6	44	N	4.3	1.9	.....	.....	4	SW	.....	0.020	0.5	.....	Prof. G. M. Garibaldi.
Mondovi	28.07	713.0	30.10	764.5	28.6	— 1.9	59	NW	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.02	762.4	30.07	763.7	32.9	0.5	85	NW	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.3	30.01	762.2	41.0	5.0	58	NE	.....	.....	4	.....	2	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.90	759.5	29.99	761.8	40.8	4.9	52	ENE	13.7	6.1	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.78	756.3	29.96	761.0	44.6	7.0	72	N	6.9	3.1	.....	.....	8	.....	.....	0.047	1.2	.....	Prof. P. S. Ferrari
Lecce	29.68	753.8	29.95	760.6	48.9	9.4	59	WNW	12.5	5.6	.....	.....	8	W	.....	0.024	0.6	.....	Prof. C. De Giorgi
Cosenza	29.05	737.6	29.97	761.3	44.2	6.8	74	SE	1.3	0.6	.....	.....	9	.....	.....	0.866	22.0	.....	Prof. D. Conti.
Cagliari	29.74	755.4	29.95	760.6	52.7	11.5	74	SE	.....	.....	2	.....	10	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.70	754.4	29.96	761.0	55.2	12.9	66	NW	8.1	3.6	.....	.....	10	NW	.....	0.157	4.0	.....	Prof. G. Cincciatore.
Syracuse	29.87	758.8	29.92	759.9	56.5	13.6	68	WSW	8.7	3.9	.....	.....	9	WNW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.8	29.94	760.4	47.5	8.6	73	NE	0	0	.....	.....	5	.....	.....	0.173	4.4	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.38	771.6	30.40	772.1	35.3	1.8	91	NNE	5.4	2.4	.....	.....	0	.....	.....	0.121	3.07	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.16	766.0	30.37	771.4	40.9	4.9	87	ENE	3.2	1.4	.....	0	0	.....	.....	0	0	Clear	S. Takahayashi.
Tokei, (Yeddo) Observatory	30.28	769.1	30.36	771.1	33.8	1.0	69	ENE	3.3	1.5	.....	.....	10s	.....	SW	0	0	Cloudy	The Staff.
Wakayama	30.33	770.4	30.38	771.0	36.4	2.4	89	NE	1.7	0.8	.....	.....	9s;ks	.....	NW	0.071	1.80	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.10	637.6	30.32	770.0	41.4	5.2	52	SE	.....	.....	1	5ck	0	.....	.....	0	0	⅛ clouded	Prof. L. Perez.
Leon	24.46	621.3	30.32	770.0	46.9	8.3	84	SW	.....	.....	2	2c	0	SW	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	20.74	755.5	30.01	762.2	69.8	21.0	65	E	.....	.....	1	9cs	0	SW	.....	0	0	Very cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.10	586.7	30.41	772.4	38.5	3.6	73	Calm	0	0	.....	1c	0	.....	.....	0	0	Fine	The Staff
Morelia	24.10	612.0	.....	.....	55.2	12.9	60	N	.....	.....	2	4k	0	SW	.....	0	0	Fair	M. Fena, M. D.
Pabellon (Aguascalientes)																			M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.51	597.1	30.56	776.2	37 4	3.0	51	SE	4.5	2.0	.....	1	0	Calm	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.23	615.4	30.44	773.2	41.0	5.0	64	E	.....	.....	1	5	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.08	764.0	30.09	764.3	67.8	19.9	90	W	.....	.....	1	2	7	NW	W	0.012	0.3	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	30.09	764.3	30.12	765.0	68.9	20.5	91	Calm	0	0	.....	9k	0	.....	.....	0.08	2.0	Cloudy.	Prof. J. Rossell
Zacatecas	22.61	574.2	30.34	770.6	49.6	9.8	66	Calm	.....	.....	0	1c	1s	W	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.47	774.0	30.47	774.0	27.3	— 2.6	.....	SE	.....	.....	3	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	30.40	772.1	30.45	773.5	.....	.....	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.44	773.2	30.44	773.2	28.8	— 1.8	.....	SW	.....	.....	2	.....	.....	.....	.....	0.035	0.9	.....	
Hellevoetsluis	30.39	772.0	30.39	772.0	25.5	— 4.7	80	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.43	773.0	30.48	774.2	23.0	— 5.0	90	E	.....	.....	2	.....	5	.....	.....	0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.27	768.8	30.32	770.2	27.0	— 2.8	74	ESE	13.4	6.0			8			0.157	4.0		
Brönö	29.67	753.5	29.71	754.5	37.0	2.8	89	SW	27	12			10			0.130	3.3		
Christiana	30.11	764.9	30.27	768.9	12.4	—10.9	90	Calm	0	0			7			0	0	Light fog	
Tromsö	29.43	747.6	29.48	748.7	33.3	0.7	89	NE	7	3			10			0.453	11.5		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.03	737.3	30.01	763.0	53.2	11.8	80	SSW	3.1	1.4			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.78	756.5	29.87	758.7	66.2	19.0	64	SW	12.5	5.6			9			6	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.67	753.5	30.02	762.6	59.5	15.3	76	SSW	14.3	6.4			9	WSW		0.004	0.1		The Staff.
Ponta Delgada (Azores)	29.32	744.8	29.39	746.6	59.7	15.4	83	SSW	10.5	4.7			3			0.130	3.3		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swel Height scale 0-9	Sea or swel Direction form—		
Bartholomew Dias				A. G. d Silva Costa, Com'd'r.
D. Fernando				A. [illegible] Sande, Com'd'r.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd'r.
Rio Lima. Capt. S. C. da Silva Costa, Bulama, Bissago Islands, Africa			0	T. Pereira, 2nd Lieut.
Sá da Bandeira				F. Teixeira da Silva, Comd'r.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea	2	WNW		F. de Assis Camillo, Jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1			J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.14	765.6	30.16	766.1	—11.6	—24.2	85	SE	2	1			10						Capt. Sseliwerstow.
Astrakhan	30.29	767.0	30.11	764.9	18.1	— 7.7	75	ESE	11	5			10s						Capt. Wisgnow.
Barnaul	30.36	771.1	30.96	786.3	—19.5	—28.6	90	Calm	0	0			0						Meteorological Obs.
Dorpat	29.94	760.4	30.21	767.3	4.1	—15.5	95	Calm	0	0			10n						Prof. Dr. Weihrauch.
Ekaterinburg	29.53	750.0	30.62	777.8	— 4.5	-20.3	89	SE	4	2			2cs;8					Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	30.00	762.1	30.30	769.6	9.9	—12.3	93	S	13	6			10						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.28	743.8	29.97	761.2	15.8	— 9.0	91	SSW	4	2			9cks,o						Physical Cabinet.
Krotkowo*	29.82	757.4	30.35	770.8	8.6	—13.0	68	SE	4	2			10						Cand. Fatjanow.
Lugan	29.94	760.4	30.16	766.1	11.3	—11.5	85	W	4	2			6						Meteorological Obs
Moscow	29.62	752.3	30.24	768.1	— 1.5	—18.6	83	S	4	2			5s						Meteorological Obs.
Nertchinsk	28.26	717.7	31.04	788.5	—32.6	—35.9	79	Calm	0	0			3					Light clouds	Meteorological Obs.
Nikolaiev	30.09	764.2	30.16	766.0	9.5	—12.5	85	SSE	9	4		3c							Kurdakof.
Nukuss	30.02	762.4	30.27	768.9	17.1	— 8.3	94	ENE	4	2			10n						
Orenberg																			
Pekin (China)	30.51	775.0	30.65	778.6	17.2	— 8.2	94	Calm	0	0			9n					Snowing	Physical Observatory.
St. Petersburg	30.15	765.7	30.16	766.1	5.0	—15.0	91	ENE	7	3			4k					Light clouds	Central Physical Obs.
Tashkend	28.70	729.0	30.38	771.6	29.1	— 1.6	100	Calm	0	0			3						Telch, A. M.
Tiflis	28.54	725.0	30.00	762.0	40.3	4.6	36	N	4	2			7s						Physical Observatory.
Vladivostock																			
Warsaw	29.91	752.2	30.07	763.8	18.3	— 7.6	78	WNW	11	5			10ks						Astronomical Obs.
Wilna	29.63	752.7	30.10	764.5	5.0	—15.0	83	Calm	0	0			8						Astronomical Obs.
Yeniseisk	30.82	782.9	31.17	791.6	—17.3	—27.4	82	ESE	2	1			4						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.87	758.7	29.98	761.5	43.7	6.5	74	ENE	3.9	1.75			10			0.006	0.15	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.3	29.99	761.8	52.3	11.3	89	SE	1.5	0.68			10			0.236	6.0	Raining	Prof. Manuel de Naveran.
Burgos, Met. Obs'y	26.98	685.2			42.1	5.6	94	W	7.2	3.21		0	9			0.197	5.0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.76	705.2	30.02	762.6	50.5	10.3	83	SW	22.4	10.00		3	2	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.06	763.4	30.21	767.3	60.3	15.7	62	SW	1.9	0.83		5	4	SE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.97	735.9	29.87	758.6	54.5	12.5	93	SE	1.8	0.8			10			0.906	23.0	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.00	762.0	30.07	763.7	71.7	22.1	66	NNE	4.0	1.8		0	3k		NNE	0	0	Fair	Benito Vines, S. J.
Manilla, Phillippine Islands	30.00	762.0	30.06	763.5	79.1	26.2	72	NE	7.0	3.0			3s		E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.0	30.10	764.5	61.9	16.6	66	SSW	4.0	1.8		7	0	W		0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.84	757.9	29.93	760.2	73.8	23.2	90	SE	0	0		2s	1k	SE	SE	0	0	Clear	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.84	758.0	29.88	759.0	6.1	—14.4	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Umea	29.94	760.5	29.99	761 8	16.9	— 8.4	100	SW	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	
Hernosand	30.00	761.9	30.05	763.2	19.0	— 7.°	84	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	30.05	763.3	30.23	767.8	14.9	— 9.5	91	WNW	.....	.....	2	.....	10	.....	.....	0.004	0.1	Light snow.	
Wisby	30.05	763.2	30.11	764.7	21.6	— 5.8	71	NE	.....	.....	6	.....	7	.....	.....	0.186	4.7	.....	
Sub-Series.																			
Upsala	30.07	763.7	30.15	765.9	15.6	— 9.1	81	SW	0	0	.....	.....	10	.....	.....	0.034	0.87	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	728.9	30.22	767.6	22.8	— 5.1	83	N	.....	.....	5	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.53	724.7	30.31	769.9	15.4	— 9.2	71	N	.....	.....	2	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1 3 mm.; Thermometer, —6 6 Cent. Relative Humidity, +4 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.12	765.0	38.5	3.6	66	SE	4	2.0	.....	.....	8	.....	SW	.....	.....	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.89	759.1	50.2	10.1	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.06	763.4	55.9	13.3	73	SW	.....	.....	2	.....	8n	.....	SW	0.465	11.81	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.69	754.1	29.70	754.4	25.7	— 3.5	.....	SW	5	2.2	.....	.....	.....	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	29.08	753.9	29.74	755.4	26.3	— 3.2	94	N	7	3.1	.....	.....	10n	.....	.....	0.23	5.8	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.62	749.8	29.56	750.8	29.3	— 1.5	100	NE	11	4.9	.....	.....	10n	.....	.....	0.31	7.9	Snowing	H. J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.85	758.2	33.0	0.6	97	W	.....	.....	1	.....	10s	.....	.....	0.03	0.8	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.05	1.3	.....	H. A. Johnson.
Father Point, Quebec	29.78	756.4	29.80	756.9	24.7	— 4.1	94	NE	24.0	10.7	.....	.....	10n	.....	.....	.....	.....	Sleeting	J. McWilliams.
Fredericton, N. B	29.67	753.6	29.74	755.4	27.3	— 2.6	85	NE	2	0.9	.....	.....	10s	.....	.....	0.58	14.7	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.45	748.0	30.43	772.9	—23.0	—30.6	100	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.69	728.7	29.82	757.4	35	1.7	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.28	743.7	29.42	747.3	33.4	0.8	96	N	14	6.3	.....	.....	10n	.....	.....	0.63	16.0	Heavy snow	A. Allison.
Hamilton, Ontario	29.61	749.5	29.89	759.2	33.9	1.1	92	E	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.55	750.6	29.90	759.4	36.1	2.3	97	W	2	0.9	.....	.....	10ks	.....	.....	0.10	2.5	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.37	746.0	29.41	747.0	36 4	2.4	96	Calm	0	0	.....	.....	10n	.....	.....	0.82	20.8	Raining	C. H. Rigby.
Montreal, Quebec	29.08	753.9	29.88	758.9	34.3	1.3	87	W	4	1.8	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.02	762.5	30.06	763.5	— 4.5	—20.3	86	NW	.....	.....	4	.....	10	.....	.....	0	0	Cloudy	J. R. Nr son.
Norwood	29.14	740.1	29.85	758.2	33.8	1.0	93	SW	3	1.3	.....	.....	10s	.....	.....	Inap.	Inap.	Snowing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.14	740.1	29.85	758.2	33.0	0.6	100	E	1	0.4	.....	.....	10n	.....	E	Inap.	Inap.	Light rain	Rev. R. Mosley.
Peterboro, Ontario	29.12	739.6	29.89	759.2	34.6	1.4	89	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.15	740.4	29.86	758.4	36.0	2.2	100	SW	4	1.8	.....	10ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.19	741.4	29.85	758.2	34.4	1.3	96	E	8	3.6	.....	0	5ks	.....	.....	0	0	Fair	M. Payne.
Quebec, Quebec	29.55	750.6	29.89	759.2	26.0	— 3.3	100	Calm	.....	.....	0	.....	10n	.....	.....	0.12	3.0	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario	29.36	745.7	29.84	757.9	32.0	0.0	89	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.46	748.3	29.63	752.6	29	— 1.7	100	N	12	5.4	.....	.....	10n	.....	.....	0.34	8.6	Snowing	G. Murdock, C. E.
Saugeen, Ontario	29.10	739.1	29.84	757.9	34.0	1.1	89	SE	6	2.7	.....	.....	9ks	.....	.....	0	0	Cloudy	Miss K. Stewart.
Stratford, Ontario	28.51	724.1	29.83	757.7	33.0	0.6	96	SE	2.0	0.9	.....	2cs	3s	W	.....	0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B	29.52	749.8	29.56	750.8	32.1	0.1	97	NE	6	2.7	.....	.....	10n	.....	.....	0.71	18.0	Heavy rain	T. C. Hill, C. E.
Toronto, Ontario	29.50	749.3	29.89	759.2	33.7	0.9	96	S	1	0.4	.....	.....	10ks	.....	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	29.40	746.7	29.50	749.3	32.5	0.3	94	N	13	5.8	.....	.....	10n	.....	.....	.....	.....	Heavy snow	Prof. John E. Oram, M. A.
Woodstock, Ontario	28.74	730.0	29.84	757.9	33.0	0.6	95	SE	4	1.8	.....	0	6ks	.....	W	Inap.	Inap.	Fair	Professor Wolverton.
Yarmouth, N. S	29.50	749.3	29.56	750.8	33.0	1.1	94	N	12	5.4	.....	.....	10s	.....	.....	0.28	7 1	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.91	759.7	30.17	766.8	28	— 2.2	100	N	.....	.....	.....	.....	10	.....	.....	0.30	7.6	Overcast	John Delany.
St. Pierre, M. F., Pilophal Maritime	.....	.....	29.80	756.9	32.0	0.0	.....	SE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.70	754.4	29.94	760.5	36	2.2	90	NW	12	5.4		1k	1s	W	W	0	0	Clear.	
Alpena, Michigan	29.17	740.9	29.83	757.7	34	1.1	90	N	6	2.7			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.99	736.3	30.16	766.1	49	9.4	50	NW	16	7.2		0	0			0	0	Clear.	
Atlantic City, New Jersey	30.01	762.2	30.03	762.7	32	0.0	79	W	7	3.1		0	0			Inap.	Inap.	Clear.	
Augusta, Georgia	30.00	762.0	30.21	767.3	41	5.0	91	Calm	0	0			Fog		Calm	0	0	Dense fog.	
Baltimore, Maryland	30.02	762.5	30.07	763.8	36	2.2	80	NW	2	0.9		0	Fog		Calm	0	0	Clear.	
Barnegat, New Jersey	29.97	761.2	29.99	761.7	35	1.7	90	NW	10	4.5		0	0			0.02	0.5	Clear.	
Bismarck, Dakota	28.26	717.8	30 11	764.8	14	—10.0	82	E	6	2.7			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.64	727.4	29.95	760.7	59	15.0	100	SW	4	1.8			Fog			0	0	Dense fog.	
Boise City, Idaho	27.22	691.4	30.18	766.6	37	2.8	71	SE	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.69	754.1	29.84	757.9	38	3.3	72	NW	12	5.4		0	0			0.02	0.5	Clear.	
Brackettville, Texas	28.92	734.6	29.96	761.0	62	16.7	94	SE	4	1.8			10s		Calm	Inap.	Inap.	Threatening	
Breckenridge, Minnesota	29.05	737.9	30.15	765.8	4	—15.6	109	N	17	7.6		0	0			0	0	Clear.	
Brownsville, Texas	30.04	763.0	30.09	764.3	65	18.3	89	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.15	740.4	29.86	758.4	38	3.3	72	S	5	2.2		5ck	2s	W	Calm	0	0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.60	751.8	29.90	759.4	36	2.2	80	NE	5	2.2			10s		NE	0.01	0.3	Cloudy	
Cairo, Illinois	29.96	753.4	30.05	763.3	54	12.2	55	S	8	3.6		8cs	0	Calm		0	0	Fair	
Campo, California	27.54	699.5	30.11	764.8	34	1.1	79		4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	47	8.3	77	NE	10	4.5		Haze	Haze			0	0	Hazy	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	38	3.3	91	NW	6	2.7		0	Haze		Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.12	765 0	30.13	765.3	45	7.2	84	NE	8	3.6		Haze	0	Calm		0	0	Dense haze	
Cape May, New Jersey	30.01	762.2	30.04	763.0	40	4.4	73	NW	19	8.5		0	0			0.02	0.5	Clear	
Castroville, Texas	29.31	744.5	30.01	762.2	62	16.7	94	S	6	2.7			10s		S	0	0	Cloudy	
Cedar Keys, Florida	30.15	765.8	30.18	766.6	49	9.4	64	NE	9	4.0		0	0			0	0	Clear.	
Charleston, South Carolina	30.13	765.3	30.19	766.8	48	8.9	85	N	5	2.2		0	0			0	0	Clear.	
Charlotte, North Carolina	29.28	743.7	30.12	765.0	42	5.6	74	NW	3	1.3		0	Sm'e		Calm	0	0	Clear.	
Chattanooga, Tennessee	29.37	746.0	30.20	767.1	41	5.0	82	SW	1	0.4		1cs	Sm'e		Calm	0	0	Dense smoke	
Cheyenne, Wyoming	23.90	607.0	29.84	757.9	42	5.6	19	NW	28	12.5			10s		Calm	0	0	Cloudy	
Chicago, Illinois	29.11	739.4	29.80	756.9	44	6.7	68	SW	5	2.2		5k	0	Calm		0	0	Fair	
Cincinnati, Ohio	29.36	745.7	30.02	762.5	45	7.2	76	SE	3	1.3		5k	0	S		0	0	Fair	
Cleveland, Ohio	29.12	739.6	29.85	758.2	38	3.3	81	SE	10	4.5		0	1s		Calm	0	0	Clear.	
Coleman City, Texas	28.23	717.0	29.89	759.2	54	12.2	87	S	6	2.7			10s		S	0	0	Cloudy	
Columbus, Ohio	29.10	739.1	29.95	760.7	41	5.0	82	S	8	3.6		5k	0	S			0	Fair	
Concho, Texas	28.10	713.7	29.75	755.6	58	14.4	88	S			2		10ks		Calm		0	Cloudy	
Corsicana, Texas	29.61	752.1	30.07	763.8	62	16.7	88	S	12	5.4			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.14	740.1	29.77	756.1	43	6.1	75	Calm	0	0		0	8s		Calm	0	0	Fair	
Dayton, Washington T'y					36	2.2	80	W			1		10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.25	641.3			32	0.0	79	Calm	0	0			10n		Calm	Inap.	Inap.	Light snow.	
Decatur, Texas	28.84	732.5	29.99	761.7	63	17.2	62	SW	16	7.2		8cs	0	SW		0	0	Cloudy	
Denison, Texas	29.22	742.2	30.00	762.0	60	15.6	82	S	11	4.9		2k	5s	S	S	0	0	Fair	
Denver, Colorado	24.64	625.8	29.86	758.4	49	9.4	18	NE	4	1.8		0	0			0	0	Clear.	
Des Moines, Iowa	28.88	733.5	29.76	755.9	38	3.3	81	N	1	0.4			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.10	739.1	29.78	756.4	39	3.9	82	SW	6	2.7		8ck	2s	Calm	Calm	0	0	Cloudy	
Dodge City, Kansas	27.18	690.4	29.49	749.0	35	1.7	45	NW	12	5.4		0	0			0	0	Clear.	
Dubuque, Iowa	29.10	739.1	29.81	757.2	32	0.0	79	SW	2	0.9			Fog		Calm	0	0	Foggy	
Duluth, Minnesota	29.34	745.2	30.06	763.5	22	— 5.6	72	NW	14	6.3		0	0			0	0	Clear.	
Eagle Pass, Texas	29.32	744.7	30.04	763.0	65	18.3	89	Calm	0	0			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.59	751.6	29.66	753.4	30	— 1.1	78	N	16	7.2			10s		N	0.46	11.7	Cloudy	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.12	739.6	29.84	757 9	42	5.6	74	S	8	3.6		8ck	0	NW		0	0	Fair	
Escanaba, Michigan	29.27	743.4	29.94	760.5	33	0.6	70	N	3	1.3			10s		N	Ina.	Inap.	Cloudy	
Florence, Arizona	28.60	726.4	30.20	767.1	42	5.6	83	SW	4	1.8		0	0			0	0	Clear.	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.98	710.7	29.98	761.5	7	—13.9	88	E	7	3.1			10s		Calm	0.02	0.5	Cloudy	
Fort Custer, Montana	26.71	678.4			28	— 2.2	100	N	6	2.7			10n		Calm	0.11	2.8	Heavy snow	
Fort Davis, Texas	25.24	641.1	30.19	766.8	46	7.8	84	S	4	1.8		0	2s		Calm	Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.36	745.7	29.89	759.2	59	15.0	65	SE	9	4.0			10s		Calm	0	0	Cloudy	
Fort Grant, Arizona	25.29	642.4	30.09	764.3	44	6.7	53	NE	4	1.8		0	0			0	0	Clear.	
Fort Griffin, Texas	28.72	729.5	29.98	761.5	61	16.1	94	S	12	5.4			10n		Calm	Inap.	Inap.	Light rain	
Fort Keogh, Montana	27.18	690.4			17	— 8.3	100	NE	9	4.0			10n		NE	Inap.	Inap.	Light snow.	
Fort McKavett, Texas	27.78	705.6	29.68	753.9	57	13.9	94	S	12	5.4			10s		S	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.68	728.5	29.76	755.9	59	15.0	82	S	21	9.4			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.24	717.3			4	—15.6	100	SE	3	1.3			10s		SE	0	0	Cloudy	
Fort Verde, Arizona					33	0.6	99	NW			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.22	716.8	29.76	755.9	60	15.6	88	S	10	4.5			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.10	764.5	30.14	765.5	63	17.2	89	SE	4	1.8		0	1ks		S	0	0	Clear.	
Graham, Texas	28.90	734.0	29.94	760.5	60	15.6	88	SW	2	0.9			10s		Calm	0.24	6.1	Cloudy	
Grand Haven, Michigan	29.12	739 6	29.77	756.1	42	5.6	83	NW	1	0.4			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.01	736.8	29.94	760.5	61	16.1	82	S	16	7.2			10s		S	0	0	Threatening	
Indianapolis, Indiana	29.10	739.1	29.88	758.9	48	8.9	56	S	6	2.7			10s		S	0	0	Cloudy	
Indianola, Texas	30.11	764.8	30.14	765.5	64	17.8	94	SE	6	2.7		1c	Haze	SW	Calm	0	0	Clear.	
Jacksboro, Texas	28.79	731.3	29.83	759.2	60	15.6	94	SW	8	3.6			10s		SW	0	0	Cloudy	
Jacksonville, Florida	30.14	765.5	30.17	766.3	48	8.9	63	NW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa	29.12	739.6	29.72	754.9	51	10.6	59	SW	3	1.3			10s		Calm	0	0	Cloudy	
Key West, Florida	30.04	763.0	30.08	764.0	69	20.6	75	NE	12	5.4		0	0			0	0	Clear.	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	40	4.4	91	W	5	2.2		0	Haze		Calm	0	0	Clear.	
Knoxville, Tennessee	29.17	740.9	30.22	767.6	37	2.8	90	SW	1	0.4		0	0			0	0	Clear.	
La Crosse, Wisconsin	29.09	738.9	29.84	757.9	35	1.7	70	N	1	0.4		0	0			0	0	Clear.	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	35	1.7	90	Calm	0	0		0	0			0	0	Clear.	
Laredo, Texas	29.69	754.1	30.02	762.5	70	21.1	75	SE	2	0.9		2k	0	Calm		0	0	Clear	
Leavenworth, Kansas	28.86	733.0	29.69	754.1	53	11.7	73	S	6	2.7			10s			0	0	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.73	755.1	30.09	764.3	51	10.6	65	SW	6	2.7		2c	0	Calm		0	0	Fair	
Los Angeles, California	29.81	757.2	30.15	765.8	46.5	8.1	81	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.44	747.8	30.00	762.0	51	10.6	59	S	6	3.6		5k	2s	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.40	746.7	30.10	764.5	38	3.3	81	NW	2	0.9		0	0			0	0	Clear	
Madison, Wisconsin	28.78	731.0	29.78	756.4	37	2.8	81	N	11	4.9		0	8s		NW	0	0	Cloudy	
Marquette, Michigan	29.18	741.1	29.91	759.7	33	0.6	70	NW	16	7.2			10s		NW	0	0	Cloudy	
Mason, Texas	28.42	721.9	30.17	766.3	60	15.6	88	SW	4	1.8			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.75	755.6	30.03	764.3	52	11.1	53	S	8	3.6		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Lo'er. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.04	737.6	29.77	756.1	40	4.4	82	NW	14	6.3	.....	0	5s	.....	Calm	0	0	Fair	
Mobile, Alabama	30.17	766.3	30.21	767.3	45	7.2	76	N	6	2.7	.....	0	Sm'e	.....	.....	0	0	Smoky	
Montgomery, Alabama	29.97	761.2	30.22	767.6	45	7.2	88	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Morgantown, West Virginia	29.03	737.3	30.04	763.0	30	3.9	82	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	28.36	693.3	29.72	754.9	15	— 9.4	100	NW	36	16.1	.....	.....	Fog	.....	NW	0.73	18.5	Foggy	
Nashville, Tennessee	29.59	751.6	30.14	765.5	42	5.6	88	Calm	0	0	.....	0	1ks;sme	.....	Calm	0	0	Clear	
New Haven, Connecticut	29.82	757.4	29.94	760.5	40	4.4	65	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New London, Connecticut	29.84	757.9	29.89	759.2	38	3.3	63	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	56	13.3	74	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.80	756.9	29.86	758.4	38.5	3.6	77	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.80	756.9	29.98	761.5	39	3.9	72	W	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.03	762.7	30.09	764.3	42	5.6	74	W	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
North Platte, Nebraska	26.94	684.3	29.56	750.8	32	0.0	89	NW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	36.5	2.5	90	S	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Omaha, Nebraska	28.59	726.2	29.70	754.4	35	1.7	80	NE	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Oswego, New York	29.61	752.1	29.94	760.5	30	3.9	82	SW	4	1.8	.....	2cs	5s	W	W	0	0	Fair	
Pembina, Dakota	29.32	744.7	30.29	769.4	—18	—27.8	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.20	767.1	30.23	767.8	47	8.3	70	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	29.97	761.2	30.02	762.5	37	2.8	81	W	4	1.8	.....	0	1s;fg	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.92	734.6	30.78	781.8	45	7.2	76	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.58	446.5	29.79	756.7	7	—13.9	77	NW	42	18.8	.....	2cs	2s	NW	NW	0	0	Fair	
Pilot Point, Texas	29.26	743.2	30.10	764.5	47	8.3	69	S	12	5.4	.....	2k	8s	SE	S	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	32	0.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.17	740.9	29.99	761.7	39	3.9	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.03	738.9	29.76	755.9	38	3.3	81	S	9	4.0	.....	10cs	0	W	.....	0	0	Cloudy	
Portland, Maine	29.72	754.9	29.77	756.1	39	3.9	73	NW	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Portland, Oregon	30.07	763.8	30.15	765.8	42	5.6	78	NW	1	0.4	.....	.....	10s	.....	.....	Inap.	Inap	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	65	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.85	651.2	30.21	767.3	30	— 1.1	89	S	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	57	13.9	81	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.86	758.9	30.18	766.6	41	5.0	78	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.88	758.8	30.09	764.3	67	19.4	89	SE	.....	.....	1	0	8s	.....	SE	0	0	Fair	
Rochester, New York	29.26	743.2	29.88	758.9	39	3.9	82	SW	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.60	751.8	30.19	766.8	38	3.3	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	30.07	763.8	30.15	765.8	40	4.4	91	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.30	744.2	29.87	758.7	54	12.2	49	S	15	6.7	.....	2ck	8s	S	S	0	0	Cloudy	
St. Paul, Minnesota	29.05	737.9	29.90	759.4	32	0.0	79	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Salt Lake City, Utah	25.70	653.8	30.03	762.7	36	2.2	53	SE	3	1.3	.....	3	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.42	747.3	30.00	762.0	63	17.2	59	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.08	764.0	30.15	765.8	50	10.0	93	NE	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Sandusky, Ohio	29.17	740.9	29.84	757.9	45	7.2	68	S	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.95	760.7	29.99	761.7	38	3.3	72	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.09	764.3	30.06	763.5	46	7.8	92	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.31	592.1	29.85	758.2	23	— 5.0	60	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.08	764.0	30.18	766.6	48	8.9	63	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	51	10.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.12	765.0	30.15	765.8	43	6.1	59	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.50	647.7	29.56	750.8	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.18	741.1	29.85	758.2	49.5	9.7	58	S	11	4.9	.....	1c	8s	NW	W	0	0	Cloudy	
Springfield, Massachusetts	29.77	756.1	29.90	759.4	39	3.9	64	NW	4	1.8	.....	0	2ks	.....	NW	Inap.	Inap.	Fair	
Stockton, Texas	27.03	686.6	30.03	762.7	58	14.4	3	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.76	755.9	29.82	757.4	39	3.9	73	NW	17	7.6	.....	0	0	...	.....	Inap.	Inap.	Clear	
Toledo, Ohio	29.12	739.6	29.80	756.9	44	6.7	68	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.55	699.8	30.10	764.5	50	10.0	50	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.62	752.3	30.12	765.0	43	6.1	75	SW	2	0.9	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.27	741.9	30.02	762.5	63	17.2	89	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.90	759.4	30.17	766.3	51	10.6	59	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.4	29.63	752.6	31	— 0.6	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.73	755.1	30.11	764.8	46	7.8	95	SE	3	1.3	.....	0	Fog	.....	Calm	0	0	Light fog	
Washington, D. C.	29.95	760.7	30.07	763.8	34	1.1	90	N	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	90	NW	.....	.....	1	1c	0	W	.....	0	0	Clear	
Wilmington, North Carolina	30.06	763.5	30.14	765.5	44	6.7	60	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	26	— 3.3	75	SW	11	4.9	.....	0	1s	.....	Calm	0	0	Clear	
Wood's Holl, Massachusetts	29.79	756.7	29.83	757.7	37	2.8	80	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.61	726.7	25.96	761.0	26	— 3.3	75	N	8	3.6	.....	0	2s	.....	N	0	0	Fair	
Yuma, Arizona	29.92	760.0	30.07	763.8	49	9.4	57	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	74	23.3	68	N	4.8	2.2	.....	0	4ks	.....	N	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.11	764.8	30.12	765.0	74	23.3	86	Calm	0	0	.....	2c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I	29.86	758.4	29.94	760.5	75	23.9	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guinna, S. A	29.91	759.7	29.91	759.7	81	27.2	83	E	.....	.....	2	3c	5k	E	.....	1.650	41.91	Fair	C. J. Hering.
Santiago de Cuba, W. I	29.97	761.2	30.00	762.0	74	23.3	81	N	3.6	1.6	.....	0	2s	.....	N	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.13	739.9	30.19	766.8	—38.0	—38.9	.....	SW	18	8.0	.....	4k	6s	W	SW	.....	.....	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,060 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.34‡	770.6‡	.....	.....	52	11.1	79	N	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H.	29.85‡	758.2‡	.....	.....	36	2.2	80	WNW	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska, Coquimbo, Chili.....	*29.89‡	759.2‡	.....	.....	65	18.3	84	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.....	29.91‡	759.7‡	.....	.....	39	3.9	100	WSW	0.5	0.2	.....	.....	0	.....	.....	0	0	.....	.....	Pleasant.....	
Constitution, Frederickstoed, Santa Cruz, W. I.	29.91‡	759.7‡	.....	.....	76	24.4	91	N	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Enterprise. Piraeus, Greece	30.01‡	762.2‡	.....	.....	56	13.3	75	SSW	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	.....	Clear.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.09‡	764.3‡	.....	.....	39	3.9	91	NW	3.6	1.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Independence, Mare I'd, Navy Yard, Cal.	30.12‡	765.0‡	.....	.....	45	7.2	92	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy.....	
Kearsarge, Key West, Fla.....	30.00‡	762.0‡	.....	.....	70	21.1	80	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Lackawana, N. 32° 52′, W. 154° 55′...	†30.35‡	770.9‡	.....	.....	63	17.2	89	SE	.....	.....	4	.....	8	.....	SE	.....	.....	Smooth	SE	Cloudy.....	
Marion, S. 4° 25′, W. 35° 16′.....	29.89‡	759.2‡	.....	.....	83	28.3	71	ESE	.....	.....	3	.....	2	.....	SE	0	0	Smooth	E	Clear.....	
Michigan, Erie, Pa.....	29.82‡	757.4‡	.....	.....	44	6.7	52	SSE	.....	.....	2	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.49‡	774.4‡	.....	.....	40	4.4	82	NE	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.....	29.99‡	761.7‡	.....	.....	53	11.7	61	NW	8	3.6	.....	.....	1	.....	NW	0	0	.....	.....	Clear.....	
Nipsic, N. 10° 53′, W. 66° 34′....	29.88‡	758.9‡	.....	.....	79	26 1	86	E	.....	.....	3	.....	5	.....	ENE	.....	.....	Mod'ate	E	D. clouds.....	
Onward, Callao, Peru.....	†29.89‡	759.2‡	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Mod'ate smooth	W	Hazy.....	
Palos, Tientsin, China.....	30.64‡	778.2‡	.....	.....	22	— 5.6	100	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	30.05‡	763.3‡	.....	.....	36	2.2	90	W	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Misty.....	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.01‡	762.2‡	.....	.....	41	5.0	82	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Quinnebaug, Leghorn, Italy.....	29.95‡	760.7‡	.....	.....	50	10.0	52	ESE	.....	.....	4	.....	2	.....	WSW	.....	.....	.....	.....	Fair.....	
Ranger, N. 33° 05′, W. 152° 00′.....	30.35‡	770.9‡	.....	.....	62	16.7	83	E	.....	.....	1	.....	5	.....	E	.....	.....	Smooth	.....	Fair.....	
Richmond, Hong-Kong, China.....	30.18‡	766.6‡	.....	.....	65	18.3	84	E	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Rio Bravo, Brownsville, Texas...	†30.24‡	768.1‡	.....	.....	63	17.2	100	SSE	1	0.4	..	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Santee. Annapolis, Md.....	30.09‡	764.3‡	.....	.....	36	2.2	80	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Shenandoah, Montevideo, Uruguay...	29.73‡	755.1‡	.....	.....	71	21.7	76	ESE	.....	.....	5	.....	5	.....	ESE	.....	.....	Smooth	.....	Fair.....	
St. Louis, League Island, Pa.....	30.05‡	763.3‡	.....	.....	35	1.7	80	WSW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tennessee, Hampton Roads, Va....	30.11‡	764.8‡	.....	.....	43	6.1	83	WSW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Trenton, Villafranca, France.....	29.95‡	760.7‡	.....	.....	55	12.8	62	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Tuscarora, N. 13° 07′, W. 88° 30′.....	29.96‡	761.0‡	.....	.....	79	26.1	70	NNE	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Wabash, Boston, Mass.....	29.77‡	756.1‡	.....	.....	38	3.3	81	NW	14	6.3	.....	.....	0	.....	.....	.....	0	.....	.....	Clear.....	
Wyoming, Toulon, France.....	29.94‡	760.5‡	.....	.....	52	11.1	86	WNW	.....	.....	0–1	.....	10	.....	NW	.....	.....	Smooth	NW	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 116 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 m/m.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 41° 11′, W. 66° 59′		29.67‡	753.6‡				NNE			5		10		NNE	9 h'rs	Mod'ate	NNW	Cloudy	W. E. Jago.
S. S. Circassian, N. 53° 21′, W. 31° 18′		29 99†	761 7†	47	8.3	63	SE			3		2		SSW		Mod ate	SE	Fine	R. Carruthers.
S. S. Hibernian, F. Archer, N. 57° 00′, W. 35° 29′		30 01‡	762.2‡	50	10.0		E			4		5		E		Long	SE	Fair	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 40° 03′, W. 41° 01′		30.10‡	764.5‡	50	10.0		NNW			7		8		NW	Mod'ate	Mod'ate	NW	Fair	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 40° 28′, W. 60° 50′		29.41‡	747.0‡				SW			6		10		SW	18hours	Mod'ate	SW	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 35° 16′, W. 31° 20′		29.45‡	748 0‡				NW			7		10		W		Cross	NW	Heavy rain.	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 36° 07′, W. 131° 02′...†		30.00‡	762.0‡	56	13.3	81	NNE			5		10		N		Heavy	NW	Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, N. 26° 02′, E. 121° 35′...†		30.31‡	769.9*	64	17.8		NE			5		ks				Slight	Mod'te	NE	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio, J. Maury Yokohama, Japan †		29 89‡	759.2‡	36	2.2		N			4		0			0	Smooth		Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J. M. Cavarly																			D. E. Griffith.
S. S. Zalandia, R. C. Ghest. N. 19° 42′, W. 158° 19′		29 90‡	759.41				E			6				NE		High	NE.	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Adaie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 15′, W. 6° 48′		30.18‡	766.6‡	80	15.6		NNW			4		10?		NNW		Long	WSW	Fair?	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 22° 50′, W. 65° 50′ †		30.00‡	762 01	78	25.6		NNW			4		2		N		Showers	ESE	Clear.	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, *fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg,* and *sm'e* are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 20, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.08	764.1				SE			2		3			0	0	Pretty fair.	
Nemours			30.18	766.6	63.0	17.2	76	NW			1		5			0	0	Cloudy	Kesxuche.
Algiers			30.23	767.7	55.8	13.2	68	NE			4		0			0	0	Clear	Touriliere.
La Calle			30.21	767.3	54.1	12.3	94	NNW			4		7			0	0	Very cloudy	Fonfrede.
Tunis																			Jacques.
Sfax			30.24	768.0															Gau.
Saida			30.20	767.0															Herbin.
Tebessa			30 23	767.8	55.0	12.8	48	NNW			4		5			0	0	Cloudy	Watrin.
Geriville								NW			3		0			0	0	Clear	Brugniaux.
Laghouat			30.24	768 2	60.1	15.6	36	N			1		0			0	0	Clear	Bertrand.
Biskra			30.22	767.5	64 0	17.2	41	WNW			4		0			0	0	Clear	Chauvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.83	757.6	30.43	772.9	18.1	— 7.7	69	SW			1		0			0	0		Dr. Wierzbicki.
Eperies	29.56	750.7	30.39	771 9	17.6	— 8.0	97	SW	3.1	1.4			10			0.012	0.3		Julius Mikolik.
Gratz	29.32	744.7	30.28	769.1	17.4	— 8.1	80	S			1		10s		SE	0	0		Andreas Rospini.
Hermannstadt	29.10	739.0	30.45	773.4	22.3	— 5.4	51	NW			4		0			0	0		Prof. A. Gottschling
Kremsmünster	28.73	729.8	30.29	769.4	16.2	— 8.8	88	W			1		8			0	0		Prof. C. Wagner.
Lemberg	29.07	738.4	30.58	770.8	6.4	—14.2	96	Calm			0		0			0	0		Dr. T. Stanecki.
Pola	29.15	740.4	30.23	767.9	13.1	—10.5	97	W			1		10			0.028	0.7		I.R.Hydrographic Office
Szathmar	30.26	768.5	30.38	771.6	27.7	— 2.4	67	ENE			3		0			0	0		Pet. Pancsics, S. J.
Szegedin	29.84	757.0	30.33	770.3	5.0	—15.0	55	S			1		3			0	0		Karl Stancel.
Trieste	30.04	763.0	30.35	770.8	19.8	— 6 8	84	NW			3		3			0	0		P. Busin.
Vienna	30.32	770.2	30.43	772.8	27.5	— 2.5	58	ESE			2		0			0	0	Clear.	I.R.Central Met. Ob'sy.
	29.69	754.2	30.45	773.4	15.3	— 9.3	63	W			3		0			0	0		

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau
Brussels																			Royal Observatory
Furnes	30.34	770.6	30.56	776.1	23.0	— 4.5	90	WSW			1		10			0.024	0.60	Light snow.	M. E. de Cae.
Maeseyck	30.58	770.6	30.60	777.2	34.5	1.4	90	N			2		10			0	0		M. Pierrot.
	30.40	772.2	30.53	775.4	24.6	— 4.1	94	WSW			2		10			0.063	1.6		

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.40	772.1	30.50	774.7	40.0	4.4		WNW	13	5.8			3			0	0	Blue sky	W. Boswell.
Ardrossan	30.57	776.5	30.59	777.0	37	2.8		NNE			1		3					D. clouds	G.Carrick.
Armagh, (Observatory)	30.40	772.1	30.65	778.5	31.6	— 0.2		ESE	2	0.9			0					Blue sky	S. Call.
Bidston (Liverpool Obs)			30.63	778.0	31.9	— 0.1		WSW	15	6.7			1					Blue sky	John Hartnup.
Bolton (Sharples)	30.03	762.7	30.57	776.5	30.1	— 1.1		E					6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.18	766.6	30.58	776.7	30.7	— 0.7	90	NW			1		0			0	0	Blue sky	J McLandsborough.
Bridgetown, Barbadoes	29.85	758.2	29.88	758.9	81	27.2		NE			1		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.52	775.2	30.62	777.7	34.0	1.1		NW			1		0					Blue sky	H. Todd.
Cardington			30.62	777.7	30.0	— 1.1		NW			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.51	774.9	30.65	778.5	30.2	— 1.0		W			1	6c						D. clouds	W. Gibson, Sapper, R.E.
Donaghadee	30.60	777.2	30.64	778.2	36	2.2		W			2		0					Blue sky	J. Mac Gowan.
Dover	30.58	776.7	30.61	777.5	31	— 0.6		NNW			4		7					Misty	J. Costello.
Falmouth (Observatory)	30.35	770.9	30.59	777.0	35.2	1.8		ESE			5		9					Squally	The Staff.
Fort Napier, Natal	27.56	700.0	29.78	756.4	81.0	27.2		E			2		5					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			30.54	775.7	34	1.1		E			1		0			0	0	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.37	771.4	30.58	776.7	34.2	1.2		SW			2		0					Blue sky	D. G. Maclean.
Great Yarmouth	30.54	775.7	30.55	776.0	33	0.6		NW			3		3					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.46	773.7	30.65	778.5	25.8	— 3.4		SW			1		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	30.36	771.1	30.59	777.0	31.5	— 0.3		ESE			3		0					Blue sky	Dr.S.E Hoskins, F.R.S.
Helston	30.67	779.0	30.79	782.1	37	2.8		SE			3	4ck				0	0	Fine	M. P. Moyle.
Holyhead	30.56	776.2	30.64	778.2	34	1.1		SS			2		1					Blue sky	John Thiston.
Jersey	30.32	770.1	30.84	778.2	31.3	— 0.4		ESE			4		0					Blue sky	J. Fisher.
Kew (Observatory)	30.61	777.5	30.65	778.5	30.7	— 0.7		NE	4	1.8			1					Misty	The Met'g'l Office.
Leicester (Museum)	30.33	770.4	30.61	777.5	30.8	— 0.7		SW			1		0					Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.00	762.0	30.08	764.0	59.8	15.4		W			3		9k					Overcast	A. King.
Nairn	30.42	772.7	30.52	775.2	37	2.8		SW			1		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.08	764.0	68.2	20.1		NE			1		5					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.41	772.4	30.62	777.7	31.6	— 0.2		SSW			1		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.07	763.8	30.63	778.0	32.0	0.0		W			2		0					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.41	772.4	30.66	778.7	30	— 1.1		NNW			1		0					Blue sky	H. E. Bellamy.
Plymouth	30.53	775.4	30.60	777.2	34.8	1.6		ESE			3		10					Overcast	John Merrifield.
*Roche's Point	30.46	773.7	30.54	775.7	40	4.4		SSE			5		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.44	773.2	30.61	777.5	34	1.1		E			3		5					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			30.45	773.4	42.8	6.0		NW	17	7.6			1					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.98	761.5	30.05	763.3	32.4	0.2		NNE			2		10					Snowing	Serg't W. H. Lyne.
Sheffield	30.32	770.1	30.62	777.7	36.4	2.4		Calm			0		2			0	0	Misty	W. F. Cooper.
Silloth Rectory	30.59	777.0	30.62	777.7	32.1	0.1	87	Calm			0		0			0	0	Blue sky	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.60	777.2	26.2	— 3.2		NE	1	0.4			0			0	0	Misty	Rev. S. J. Perry.
Stratfield, Turgiss					20.1	— 6.6		E			1		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.50	774.7	30.59	777.0	37	2.8		E			6		6					D. clouds	W. Newcombe.
Valencia Observatory)	30.47	773.9	30.50	774.7	40.9	4.9		ESE	26	11.6			6					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	76	24.4	75	SSW	27.8	12.4		0	2k			0	0	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.46	646.7			94	34.4		SW				1c	3ck						Robert Burnet.
Constable, Cape Colony	26.76	679.7			79	26.1		SE					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary			29.96	761	60.8	16		SE			Calm		Slight			0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.81	757.2	30.00	761.8	80.6	27.0	60	E	20.0	8.9		1	2		E	0.17	4.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.64	752.8	29.73	755.1	87.0	30.6	35	N	8	3.6			2			0	0		J. Youngclause.
Monach Lt-house, Hebrides			30.55	776.0	45	7.2		W			4		10			0	0		
North Unst, Shetland Is			30.33	770.4				NW			6	5	7	NW		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points: the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
H. M. S. Alert, Tilly Bay, Patagonia			29.25‡	742.9‡	48	8.9		WNW			2		8					Showery	Capt. A. J. Brown
City of Agra, S. 53° 40′, W. 120° 12′			30.07‡	763.8‡	47.2	8.4		W			6		10					Drizzling	Capt. Thos. Young.
City of Cashmere, S. 53° 44′, W. 58° 00′			29.17‡	740.9‡	50.8	10.4		N			6		8					Misty	Capt. W. M. Grieve.
Barque Commewyne, N. 35° 55′, W. 33° 35′			29.62‡	752.3‡	61.3	16.3		NW			4		3					D. clouds	Capt. Jas. Buchan.
Barque Dochra, S. 39° 05′ W. 123° 12′			30.42‡	772.7‡	67	19.4		ENE			4		10					Misty	Capt. N. Spalding.
Barque Fedalma, N. 47° 25′, W. 22° 30′			29.62	752.3	59	15.0		ENE			6		10			4	ENE	Raining	Capt. H. L. Fox.
Bqte Fylde, N. 45° 15′, W. 21° 00′			29.58	751.3	58	14.4		ESE			4		6			5	ESE, NNE	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			29.96‡	761.0‡	73	22.8		SW			4		1					Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, N. 24° 51′, W. 74° 22′			30.06	763.5	75	23.9		ENE			4		3			5	NE	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 2° 27′ E. 84° 50′			29.88‡	758.9‡	79.9	26.6		SE			4		7					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 35° 50′, E. 18° 40′			29.86‡	758.4‡	59.5	15.3		SW			5		8					Squally	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	65.3	18.5	85	SE	.....	.....	2	.....	8d	.....	NE	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish lbies.

, DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.6	29.99	761.8	34.5	1.4	98	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	
Fanø	30.09	764.2	30.11	764.7	37.4	3.0	95	W	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.02	762.5	30.07	763.6	39.9	4.4	90	S	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	30.38	771.6	30.41	772.5	39.7	4.3	96	Calm	.....	.....	0	.....	10	.....	.....	.....	.....		
Vestervig	29.97	761.1	30.08	763.9	36.9	2.7	93	NNW	.....	.....	2	.....	4	.....	.....	.....	.....		

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.11	764.8	30.66	778.8	25.7	— 3.5	91	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.54	775.6	30.66	778.7	27.7	— 2.4	92	NE	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	30.33	770.3	30.61	777.4	28.4	— 2.0	95	WNW	.....	.....	3	.....	k	.....	NE	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.31	769.8	30.30	771.8	31.1	— 0.5	80	N	.....	.....	3	.....	2	.....	SW	0	0	Slightly cld'y	Giraud, Director.
Bar-sur-Seine	29.97	761.1	30.58	776.6	18.3	— 7.6	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.34	770.7	30.63	777.9	24.3	— 4.3	63	E	.....	.....	2	.....	2	.....	.....	0	0	Slightly cld'y	Frère Eugene Marie.
Besançon, Normal School	29.58	751.4	30.56	776.3	18.5	— 7.5	.....	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.13	765.4	30.33	770.4	32.9	0.5	90	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.64	752.8	30.55	776.0	16.9	— 8.4	94	N	.....	.....	1	.....	10n	N	.....	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.99	761.8	30.60	777.1	21.2	— 6	95	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.26	768.7	30.50	774.8	35.6	2.0	64	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.52	775.2	30.60	777.2	34.0	1.1	78	S	.....	.....	2	.....	1	.....	NE	0	0	Very clear	M. Bietrin, Director.
Carcassonne, N. School	29.87	758.6	30.30	769.6	43.2	6.2	43	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch	30.31	769.9	30.67	778.9	19.6	— 6.9	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.98	761.4	30.59	776.9	28.0	— 2.2	46	ENE	.....	.....	2	.....	0	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.65	737.8	30.52	775.3	22.1	— 5.5	82	N	.....	.....	1	.....	0	.....	.....	0	0	Misty	Allnard, Director.
Commercy, Normal School	29.67	753.7	30.63	778.0	17.1	— 8.3	.....	NE	.....	.....	1	.....	1	.....	NE	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.17	740.9	30.31	769.9	43.9	6.6	42	NE	.....	.....	2	.....	5	.....	SE	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.67	753.9	30.50	774.7	24.4	— 4.2	.....	ENE	.....	.....	1	.....	k	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.26	768.6	30.48	774.2	36.7	2.6	89	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.28	769.2	30.62	777.8	23.4	— 4.8	80	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.57	751.0	30.54	775.6	12.4	—10.9	63	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.43	772.9	30.54	775.7	29.8	— 1.2	84	NE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons (Obs'y (Park Station)	29.87	758.8	30.56	776.1	17.8	— 7.9	66	NNE	.....	.....	1	.....	2	.....	.....	0	0	Clear	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.01	762.2	30.28	769.2	46.1	7.8	38	NW	.....	.....	2	.....	4	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.37	746.1	30.53	775.4	15.4	— 9.2	87	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	24.93	633.2	30.24	768.2	28.8	— 1.8	96	E	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.26	768.7	30.30	769.5	46.0	7.8	55	E	.....	.....	4	.....	10	E	E	0	0	Covered	M. Boissière, Director.
Nismes, Normal School	30.13	765.3	30.36	770.8	32.9	0.5	82	N	.....	.....	6	2c	.....	.....	NW	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	30.34	770.5	.....	.....	26.1	— 3.3	52	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.23	767.8	30.34	770.7	41.5	5.3	40	E	9.4	4.2	.....	.....	0	.....	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.56	572.9	.....	.....	32.7	0.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.															N	0	0	.....	M. Baylac.
Privas, Normal School	29.35	745.6	30.60	774.8	29.1	— 1.6	.....	N	.....	.....	1	.....	10	N	N	0	0	Covered	M. Tallieu
Puy de Dome (Summ') Obs	25.27	641.8	.....	.....	18.1	— 7.7	89	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Allnard, Director.
Rochefort, Naval Obs'y	30.40	772.1	30.43	772.9	30.2	— 1.0	80	NE	.....	.....	4	.....	2	NE	NE	0	0	¾ covered	Lt. E. Decante, Director
Rouen, Normal School	30.55	775.9	30.63	778.1	29.3	— 1.5	63	SE	.....	.....	1	.....	5	.....	E	0	0	Cloudy	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.54	775.6	30.57	776.4	31.3	— 0.4	85	ESE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.46	773.7	30.63	777.9	26.6	— 3.0	51	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.15	740.4	30.30	769.5	32.0	0	100	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.63	752.6	30.36	771.2	34.3	1.3	82	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.35	771.0	30.55	776.0	25.9	— 3.4	.....	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.10	764.6	30.60	777.1	25.2	— 3.8	51	NE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.81	757.1	30.59	777.0	21.0	— 6.1	97	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.2	29.92	759.9	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.30	769.5	30.32	770.2	42.4	5.8	100	NE	9.8	4.4	.....	.....	10n	.....	.....	0.134	3.4	Raining	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.63	752.5	30.50	774.8	4.1	—15.5	81	E			6		4s					Light snow.	Prof. Dr. Hoh.
Berlin	30.08	763.9	30.26	768.7	21.6	— 5.8	80	S			4		10			0.024	0.6	Snowing	Prof. Dr. Arndt.
Breslau	29.82	757.3	30.35	771.0	18.0	— 7.8	77	WNW			5		2	N		0	0		Royal University Obs'y.
Carlsruhe	30.12	765.0	30.60	777.1	16.2	— 8.8	75	NE			0		0			0.051	1.3		Albert Senz.
Cassel	29.85	758.1	30.46	773.7	15.1	— 9.4	93	SE			4		0			0.162	4.11	Snowing	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.25	768.4	30.48	774.3	14.9	— 9.5	62	S			2		10			Inap.	Inap.	Foggy	Physical Society.
Friedrichshafen	29.02	737.2	30.61	777.5	11.5	—11.4	61	NE			4		0			0.091	2.3		Chief Telegrapher Wilhelm.
Hamburg	30.15	765.9	30.23	767.7	33.8	1.0	85	W			4		8			0.035	0.9	Hazy	Dr. Reinhold Kleeman.
Kiel	30.24	768.2	30.26	768.6	36.1	2.3	85	W			2		10			0.016	0.41	Snowing	Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.01	762.2	30.10	764.5	21.4	— 5.9	85	SW			5		10			0	0		Prof. E. Luther.
Köslin			30.08	764.1	22.5	— 5.3		SW			6		6			0.091	7.4		H. Müller.
Leipsic Observatory	29.96	760.9	30.41	772.5	20.5	— 6.4	76	SW			4		8			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.08	764.0	30.31	769.8	25.5	— 3.6	89	WSW			5		10ks	W				Snowing	Dr. Assmann.
Memel	29.89	759.3	29.94	760.5	29.7	— 1.3	100	SW			6–7		10n					Snow-squalls	Reinbrecht & Issermann.
Munich (München)	28.59	726.2	30.48	774.2	5.2	—14.9	75	NW			1		1			0	0	Hazy	Dr. C. Lang.
Neufahrwasser	30.07	763.8	30.09	764.2	22.3	— 5.4	80	WSW			4		10			0	0		A. Lothes.
Neustadt (Palatinate)	30.00	762.0	30.54	775.6	21.6	— 5.8		WSW			1		9			0.087	2.2		Reallehrer Dicknether.
Posen	29.97	761.3	30.28	769.2	21.9	— 5.6	70	W			8		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.03	762.7	30.64	778.3	14.9	— 9.5	74	NE			1		2			0	0		Imp. University Observatory.
Stuttgart	29.57	751.1	30.62	777.7	11.7	—11.3	86	N					0			0.028	0.7		Prof. Dr. Schoder.
Thorn	30.08	764.0	30.27	768.8	23.0	— 5.0	80	W			4		10			0.009	0.23		Dr. Cunerth.
Weissenburg (Bavaria)	28.93	734.8	30.53	775.5	9 7	—12.4	78		0.2	0.1		6c		NE		0	0	Light fog	Reallehrer J. Hopfner.
Wustrow	30.06	763.5	30.08	764.1	28.8	— 1.8	100	SW			8		10s			0.138	3.5		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.93	760.1	52.3	11.3		SE			1.0		10					Raining	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	760.0	29.97	761.3	73.4	23.0	40	N	8	3.6			0			0	0	Blue sky	
Deesa	29.52	749.8	30.00	762.0	76.5	24.7	41	W					2	W		0	0	D. clouds	
Bombay	29.94	760.5	29.98	761.5	73.9	23.3	74	NNW	18	8.0			10	SW	W	0	0	Overcast	
Poona (Yarrowda)	28.08	713.2	29.94	760.4	79.8	26.6	16	NW	15	6.7			1			0	0	D. clouds	
Belgaum	27.39	695.8	29.92	759.9	80.6	27.0	20	E	4	1.8			1	N		0	0	D. clouds	
Lahore	29.28	743.8	30.06	763.6	59.6	15.3	65	Calm	1.4	0.6			0			0	0	Blue sky	
Roorkee	29.06	738.2	30.00	762.0	60.8	16.0	71	NW	4.2	1.9			0			0.77	19.6	Blue sky	
Agra	29.43	747.6	30.02	762.4	67.8	19.9	56	S	5.2	2.3			7		SE	0	0		
Nagpur	28.88	733.6	29.94	760.3	77.7	25.4	42	Calm	3.1	1.4			5	SW		0	0	D. clouds	
Jubbulpore	28.58	726.0	29.98	761.4	71.5	21.9	54	S	2.7	1.2			8			0	0	D. clouds	
Lucknow	29.55	750.5	29.94	760.4	69.3	20.7	59	SSE	4.6	2.1			10			0	0	Overcast	
Allahabad	29.64	752.8	29.96	761.0	68.8	20.4	69	N	4.0	1.8			5			0	0	D. clouds	
Patna	29.76	755.6	29.94	760.3	71.1	21.7	58	E	0.9	0.4			2	E	E	0	0		
Hazaribagh	27.89	708.3	29.92	760.1	72.8	22.7	44	WNW	11.3	5.0			9			0	0		
Cuttack	29.90	759.5	29.96	761.6	74.5	23.6	56	SSW	2.3	1.0			0			0	0	Blue sky	
Jalcutta (Alipore)	29.94	760.3	29.96	760.9	72.2	22.3	71	SSW	6.9	2.7			3			0	0	D. clouds	
Goalpara	29.61	752.0	30.02	762.4	60.8	16.0	81	NE	5.1	2.3			9		N	0.54	13.7	D. clouds	
Chittagong	29.91	759.8	30.00	762.1	69.8	21.0	89	Calm	2.8	1.2			0			0	0	Misty	
Sibsagar	29.70	754.4	30.06	763.4	63.1	17.3	87	NE	1.4	0.6			10	W	W	0.02	0.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.00	761.9	30.43	773.0	25.2	— 3.8	39	W	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.89	759.2	30.44	773.3	25.9	— 3.4	93	ENE	.....	.....	.....	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.35	770.8	30.46	773.8	25.3	— 3.7	51	NNE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.47	748.5	30.41	772.3	25.2	— 3.8	82	NNW	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.16	766.0	30.36	771.1	33.4	0.8	43	N	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.38	720.8	30.40	772.2	24.1	— 4.4	88	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.32	770.1	30.37	771.4	30.7	— 0.7	51	NNE	21.0	9.4	.....	.....	8	NNE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.09	764.3	30.36	771.2	32.0	0.0	27	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.20	767.1	30.29	769.4	31.8	— 0.1	43	ENE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.95	760.7	30.13	765.4	40.1	4.5	31	N	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.77	756.1	30.04	762.9	38.8	3.5	68	NW	21.7	9.7	.....	.....	10	.....	.....	0.374	9.5	.....	Prof. C. De Giorgi
Cosenza	29.12	739.7	30.05	763.2	35.1	1.7	87	NW	5.6	2.5	.....	.....	10	.....	.....	0.264	6.7	.....	Prof. D. Conti.
Cagliari	29.88	758.9	30.08	764.1	51.4	10.8	62	E	.....	.....	2	.....	10	W	.....	0.453	11.5	.....	Prof. A. Pacinotti.
Palermo	29.73	755.2	29.99	761.8	50.0	10.0	81	NW	11.2	5.0	.....	.....	10	NW	.....	0.539	13.7	.....	Prof. G. Ciacciatore.
Syracuse	29.84	758.0	29.89	759.1	54.5	12.5	89	E	4.9	2.2	.....	.....	7	WNW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.7	30.11	764.7	35.2	1.8	79	NE	12.5	5.6	.....	.....	0	.....	.....	0.016	0.4	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	772.1	30.41	772.4	41.9	5.5	65	NNE	3.6	1.6	.....	ck	10s	.....	.....	0.145	3.68	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.11	764.8	30.32	770.1	47.2	8.4	78	ESE	2.3	1.0	.....	.....	10s	.....	.....	0.120	3.05	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.38	771.6	30.46	773.7	32.0	0.0	75	SE	3.0	1.3	.....	7cs	0	W	.....	0	0	Fair	The Staff.
Wakayama	30.38	771.6	30.44	773.2	36.5	2.5	79	E	4.0	1.8	.....	0	0	.....	.....	0.015	0.38	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.8	30.26	768.6	42.8	6.0	55	E	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.2	30.29	769.4	48.2	9.0	83	N	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.76	755.8	30.02	762.5	66.0	18.9	98	E	.....	.....	1	4k	0	.....	.....	0	0	Fair	F. Quijano, C. E.
Mexico, Central Observatory	23.08	586.2	30.30	769.7	40.8	4.9	74	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.11	612.3	.....	.....	56.1	13.4	63	SE	.....	.....	1	5c	0	S	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	23.95	608.4	30.05	763.3	42.8	6.0	71	NW	.....	.....	1	0	0	.....	.....	0	0	Very fine	M. Y. de Leon, M. E.
Puebla (Catholic Institute)	23.43	595.1	30.46	773.7	27.2	2.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.17	614.0	30.36	771.2	41.7	5.4	49	E	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpain	30.04	762.9	30.05	763.2	64.8	18.2	96	SW	.....	.....	1	1	1	S	E	0.22	5.7	Clear	Prof. M. M. Chazaro.
Vera-Cruz	30.02	762.6	30.05	763.3	68.0	20.0	86	Calm	0	0	.....	5c	3s	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.59	573.7	30.30	769.7	50.5	10.3	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.55	776.0	30.55	776.0	36.5	2.5	.....	NW	.....	.....	3	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	30.32	770.1	30.37	771.5	38.2	1.8	.....	WNW	.....	.....	.....	.....	.....	.....	.....	0.004	0.1	.....	
Helder	30.43	773.0	30.43	773.0	36.3	2.4	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.024	0.6	.....	
Hellevoetsluis	30.51	774.9	30.51	774.9	36.7	2.6	81	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.14	773.3	30.49	774.5	37.2	2.9	77	W	.....	.....	2	.....	2	.....	.....	0.043	1.1	Sl'ly cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.16	766.0	30.21	767.4	34.5	1.4	93	NW	6.3	2.8			1			0	0		
Brönö	30.1	764.6	30.14	765.6	32.0	0.0	67	NNW	27	12			8			0	0		
Christiana	29.94	760.4	30.10	764.4	19.4	— 7.0	89	WSW	0	0			5			0	0		
Tromsö	29.93	760.1	29.97	761.2	24.3	— 4.3	79	NW	7	3			10			0.091	2.3		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.03	737.3	30.04	763.0	54.3	12.4	74	SSW	4.9	2.2			8			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.76	755.8	29.84	758.0	65.0	18.9	71	WSW	3.8	1.7			6			0.394	10.0		Capt. D. A. de Cunha.
Lisbon Observatory	29.65	753.1	30.01	762.3	54.0	12.2	60	ENE	8.7	3.9			9	SW		0	0		The Staff.
Ponta Delgada (Azores)	29.31	744.5	29.38	746.3	64.0	17.8	72	W	1.3	0.6			3			0.535	13.6		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. d Silva Costa, Com'd'r.
D. Fernando																			A. [illegible] Sande, Com'd'r.
Duque da Terceira																			J. C. M. Cabrate, 1st Lieut.
Mindello																			J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J. T. d'Oliveria, Com'd'r.
Rio Lima. Capt. S. C. da Silva Costa. Bulama, Bissago Islands, Africa					81.7	27.6		Calm			0		0			0		Blue sky	T. Pereira, 2nd Lieut.
Sá da Bandeira																			F. Teixeira da Silva, Comd't.
Sado. Capt. J. A de Brito Capello, Mossamedes, Lower Guinea			29.95	760.6	73.4	23.0		NW			3		7		NW	2	NW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.26	768.5	57.2	14.0		N			2		10		N	1		Foggy	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.12	765.1	30.14	765.6	—13.4	—25.2	85	S	9	4			10						Capt. Sselliwerstow.
Astrakhan	30.23	767.8	30.15	765.7	23.5	— 4.7	88	ESE	7	3		10cp							Capt. Wisganow.
Barnaul	30.37	771.4	30.92	785.4	—13.5	—25.3	90	Calm	0	0			0						Meteorological Obs.
Dorpat	29.77	756.1	30.04	763.0	1.6	—16.9	95	SSE	2	1		c	7cs						Prof. Dr. Weihrauch.
Ekaterinburg	29.49	749.0	30.58	776.8	— 4.2	—20.1	88	Calm	0	0			3cs						Meteorological Obs.
Irkutsk																			
Kasan	30.12	765.0	30.42	772.7	1.8	—16.8	87	SSE	2	1			6						Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.43	747.4	30.13	765.4	3.9	—15.6	81	NNW	2	1			6cks					Light haze	Physical Cabinet.
Krotkowo*	29.91	759.6	30.44	773.1	3.9	—15.6	69	E	9	4			10						Cand. Fatjanow.
Lugan	29.87	758.6	30.06	764.3	9.3	—12.6	84	E	9	4			10			Blank	Blank		Meteorological Obs.
Moscow	29.65	753.2	30.27	768.9	0.9	—17.3	79	S	7.8	3.5			10s					Light snow	Meteorological Obs.
Nertchinsk	28.40	721.3	31.16	791.4	—27.0	—32.9	78	Calm	0	0			0						Meteorological Obs.
Nikolaiev	29.99	761.7	30.06	763.5	13.6	—10.2	87	NNE	9	4			10cs					Light clouds	Kurdakof.
Nukuss	30.08	764.1	30.34	770.6	17.2	— 8.2	91	ESE	4	2			7ks						
Orenberg																			
Pekin (China)	30.53	775.5	30.67	779.1	20.5	— 6.4	58	NE	18	8			9n						Physical Observatory.
St. Petersburg	30.06	763.5	30.08	763.9	— 0.8	—18.2	83	SSE	13	6			3ns						Central Physical Obs.
Tashkend	28.67	725.6	30.23	767.8	29.8	— 1.2	100	Calm	0	0			0						Teich, A. M.
Tiflis	28.60	726.4	30.04	763.0	47.8	8.8	41	Calm	0	0			0						Physical Observatory.
Vladivostock																			
Warsaw	29.81	757.1	30.28	769.0	10.2	—12.1	81	SW	9	4		ck	9ks						Astronomical Obs.
Wilna	29.73	755.1	30.19	766.9	6.3	—14.3	82	S	2	1			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.78	781.3	31.12	790.4	—13.2	—25.1	85	E	4	2			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.18	766.6	30.29	769.3	46.4	8	52	NE	3.5	1.56			6k			0.180	4.58		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.22	767.5	30.28	769.0	47.7	8.7	87	SE	0.4	0.20		2	0	NW		0.024	0.6	Almost clear	Prof. Manuel de Nayeran
Burgos, Met. Obs'y	27.20	690.9			40.6	4.8	85	N	2.9	1.28		0	6			0.295	7.5	Cloudy	Domingo Martin y Perez.
Madrid. Royal Observatory	27.95	709.8	30.32	770.0	46.4	8.0	88	SE	2.2	1.00		0	10			0	0	Covered	The Staff.
Murcia. Met. Obs'y	30.00	762.1	30.16	766.0	58.8	14.9	63	E	2.2	0.97		2	5	NE		0.005	0.13	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.9	29.99	761.7	54.9	12.7	69	SE	11.9	5.3			10			0.051	1.3	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.01	762.2	30.08	764.0	61.1	16.2	84	Calm	0	0		0	1ks		NE	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.98	761.4	30.03	762.7	80.3	26.8	90	NE					9kn		E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.6	30.05	764.1	65.3	18.5	47	SE	15.0	6.7		0	3		SE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.1	29.98	761.4	75.2	24.0	77	NE	8.0	3.57		6cks	5kn	NE	NE	0	0	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.86	758.4	29.90	759.4	7.2	—13.8		N			4		7			0.354	9.0		
Umea	29.77	756.1	29.82	757.4	25.2	— 3.8	87	NE			6		10			0	0		
Hernosand	29.82	757.3	29.87	758.6	28.4	— 2.0	64	NNW			7		8			0.059	1.5		
Stockholm	29.67	753.7	29.85	758.2	32 4	0.2	74	WNW			2		9			0.157	4.0		
Wisby	29.74	755.5	29.80	757.0	32.7	0.4	85	NNW			6		10			0.012	0.3	Snowing	
Sub-Series.																			
Upsala	29.72	754.9	29.81	757.1	30.0	— 1.1	67	NNW	12.5	5.6			8		N	0.009	0.22		Nils Ekholm.
Naval Series.																			
Corvette Saga																			Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	29.00	736.6	30.54	775.8	17.2	— 8.2	86	NE			4		9			0	0	Covered	The Observatory.
Zurich	28.80	731.6	30.59	777.0	13.6	—10.2	71	NE			1		1			0	0	Clear.	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +9 0 mm.; Thermometer, —9 7 Cent. Relative Humidity, +7 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.12	765.0	32.7	0.4	100	N	10	4.5			10		N			Snowing	The Observatory.
Fao, Persian Gulf																			
Valona			29.97	761.2	35.2	1.8		N			1		5			0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.21	767.4	58.8	14.9	65	SW			2		10n		SW	0.01	0.3		Prof. C. V. A. van Dyck

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	29.83	757.7	29.85	758.2	11.6	—11.3		NW	10	4.5						0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	29.88	758.9	29.95	760.7	15.3	— 9.3	82	W	5	2.2		7c	0	W		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.82	757.4	29.87	758.7	21.4	— 5.9	94	W	4	1.8			9s			0.30	7.6	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.94	760.5	17.2	— 8.2	75	E			4		10s			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.77	756.1	29.96	761.0	6.0	—14.4		W	3	1.3		1k	0			0	0	Clear	H. A. Johnson.
Father Point, Quebec	30.06	763.5	30.08	764.0	5.0	—15.0	75	NW	15.0	6.7		2k	2s	N		0.05	1.3	Fair	J. McWilliams.
Fredericton, N. B	29.91	759.7	29.98	761.5	17.2	— 8.2	95	NW	4	1.8		1cs	0			Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.09	738.9	30.01	762.2	— 1.6	—18.7	100	E	2	0.9			10n			0.10	2.5	Cloudy	James Stewart.
Granton, Ontario	28.57	725.7	29.70	754.4	33	0.6		NE			2		10n			0.10	2.5	Light snow	James Grant.
Halifax, N. S	29.79	756.7	29.93	760.2	24.2	— 4.3	87	NW	4	1.8		0	Haze			0.25	6.3	Hazy	A. Allison.
Hamilton, Ontario	29.30	746.5	29.77	756.1	32.3	0.2	96	NW			1		10n			0.23	5.8	Light snow	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.49	749.0	29.85	758.2	22.5	— 5.3	89	NE	16	7.2			10n			0.09	2.3	Light snow	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	28.6	— 1.9	77	W	4	1.8		0	0			1.44	36.6	Clear	C. H. Rigby.
Montreal, Quebec	29.79	756.7	30.01	762.2	14.0	—10.0	73	NE	20	8.9			10s			0.03	0.8	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.18	766.6	30.22	767.6	—28.3	—33.5	100	SW			1	0	0			0	0	Clear	J. R. Nelson.
Norwood	29.08	738.6	29.81	757.2	21.0	— 6.1	85	NE	8	3.6		0	0			0	0	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.14	740.1	29.88	758.9	18.1	— 7.7	84	E	18	8.0		2k	8ks	W	W	0.08	2.0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.82	757.4	20.8	— 6.2	85	NE			4		10n					Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	28.98	736.1	29.69	754.1	33.0	0.6	100	NE	13	5.8			10n			0.09	2.3	Threatening	H. Morgan.
Port Stanley, Ontario	29.03	737.3	29.69	754.1	33.4	0.8	87	E	14	6.3			10n			0.22	5.6	Cloudy	M. Payne.
Quebec, Quebec	29.72	754.9	30.08	764.0	9.0	—12.8	78	SE			3	0	8s			0.01	0.3	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.56	750.8	30.07	763.8	5.1	—14 9	72	E	4	1.8			10n			0	0	Hazy	W. H. McIntyre.
St. John, N. B	29.79	756.7	29.96	761.0	26	— 3.3	63	N	1	0.4		0	0			0.28	7.1	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.04	737.6	29.79	756.7	29.0	— 1.7	90	NE	15	6.7			10ks			Inap.	Inap.	Overcast	Miss K. Stewart.
Stratford, Ontario	28.39	721.1	29.71	754.6	30.0	— 1.1	94	E	9.0	4.0			10s			0.20	5.1	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.79	756.7	29.83	757.7	27.0	— 2.8	79	W	6	2.7		0	1ks			1.88	48.5	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.37	746.0	29.76	755.9	30.1	— 1.1	89	NE	15	6.7			10n			0.10	2.5	Light snow	Magnetic Observatory
Windsor, N. S	29.81	757.2	29.91	759.7	23.5	— 4.7	100	SW	5	2.2		0	0			0.75	19.1	Clear	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.59	726.2	29.69	754.1	30.9	— 0.6	91	NE	20	8.9			10s		E	0.30	7.6	Overcast	Professor Wolverton.
Yarmouth, N. S	29.89	759.2	29.96	761.0	31.1	— 0.5	90	Calm	0	0		4ck	2ks	W		0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.39	746.5	29.65	753.1	31	— 0.6		W				5k	10s			0.60	15.2	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime			29.66	753.4	27.8	— 2.6		NE			6								The Commandant.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.58	751.3	29.81	757.2	34	1.1	90	E	1	0.4			10n		Calm	0.12	3.0	Light rain	
Alpena, Michigan	29.18	741.1	29.86	758.4	21	— 6.1	86	NE	12	5.4			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.83	732.3	29.97	761.2	53	11.7	67	SW	9	4.0			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.76	755.9	29.78	756.4	45	7.2	84	S	6	2.7			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.89	759.2	30.00	764.3	49	9.4	71	Calm	0	0		2ck	5s	W	W	0	0	Fair	
Baltimore, Maryland	29.73	755.1	29.78	756.4	49	9.4	71	S	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Barnegat, New Jersey	29.75	755.6	29.77	756.1	42	5.6	100	Calm	0	0			10s		W	0	0	Cloudy	
Bismarck, Dakota	28.80	711.2	29.86	758.4	15	— 9.4	82	NE	4	1.8		0	Haze			0.23	5.8	Clear	
Boerne, Texas																			
Boise City, Idaho	27.22	691.4	30.18	766.6	42	5.6	63	SE	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.73	755.1	29.89	759.2	36	2.2	90	W	3	1.3			10n		Calm	0.03	0.8	Light rain	
Brackettville, Texas	28.84	732.5	29.88	758.9	67	13.9	94	NE	1	0.4			8g		Calm	Inap.	Inap.	Fair	
Breckenridge, Minnesota	29.04	737.6	30.13	765.3	13	—10.6	100	Calm	0	0		0	8s		Calm	0	0	Cloudy	
Brownsville, Texas	29.98	761.5	30.03	762.7	69	20.6	95	S	4	1.8		0	0			0	0	Clear	
Buffalo, New York	28.97	735.8	29.67	753.6	33	0.6	89	NE	16	7.2			10n		Calm	0.10	2.6	Light snow	
Burkes, Arizona																			
Burlington, Vermont	29.03	752.6	29.93	760.2	22	— 5.6	72	N	17	7.6			10s		N	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.48	748.8	29.87	758.7	52	11.1	60	NW	18	8.0		0	0			Inap.	Inap.	Clear	
Campo, California																			
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	55	12.8	81	SW	16	7.2		8cs	0	Calm		0	0	Cloudy	
Cape Henry, Virginia	29.83	757.7	29.85	758.2	56	13.3	51	SW	22	9.8		5c;cs	5s	SW;S	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.99	761.7	30.00	762.0	57	13.9	81	SW	17	7.6		5ck	5s	SW	Calm	0	0	Cloudy	
Cape May, New Jersey	29.76	755.9	29.79	756.7	47	8.3	77	SW	14	6.3			10s		Calm	0	0	Cloudy	
Castroville, Texas	29.22	742.2	29.92	760.0	62	16.7	94	NW	3	1.3			Fog		Calm	0	0	Foggy	
Cedar Keys, Florida	30.10	764.5	30.13	765.3	58	14.4	88	E	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	30.02	762.5	30.08	764.0	55	12.8	74	SW	6	2.7		0	0			0	0	Clear	
Charlotte, North Carolina	29.99	738.9	29.89	759.2	55	12.8	56	SW	7	3.1			10s		W	0	0	Cloudy	
Chattanooga, Tennessee	29.11	739.4	29.91	759.7	55	12.8	68	SE	7	3.1			10s		SW	0.05	1.3	Cloudy	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	40	4.4	25	W	15	6.7		0	5s		Calm	0	0	Fair	
Chicago, Illinois	29.04	737.6	29.74	755.4	37	2.8	90	N	8	3.6			10s		Calm	0.49	12.4	Cloudy	
Cincinnati, Ohio	29.02	737.1	29.65	753.1	55	12.8	62	SW	8	3.6		0	8ks		SW	0.04	1.0	Fair	
Cleveland, Ohio	28.88	733.5	29.60	751.8	39	3.9	95	NE	6	2.7			10n		Calm	0.58	14.7	Light rain	
Coleman City, Texas	28.18	715.8	29.84	757.9	54	12.2	74	W	6	2.7			10s		Calm	0	0	Cloudy	
Columbus, Ohio	28.76	730.5	29.56	750.8	52	11.1	87	S	6	2.7			10ks		SW	0.17	4.3	Cloudy	
Concho, Texas	28.10	713.7	29.79	756.7	49	9.4	85	W			1	5ck	0	Calm		Inap.	Inap.	Fair	
Corsicana, Texas	29.49	749.0	29.95	760.7	62	16.7	77	SW	8	3.6		0	2s		Calm	0	0	Clear	
Davenport, Iowa	29.19	741.4	29.84	757.9	32	0.0	81	N	11	4.9			10s		Calm	0.36	9.1	Cloudy	
Dayton, Washington T'y					41	5.0	74	SW			1		10s		W	0.17	4.3	Cloudy	
Deadwood, Dakota	25.10	637.5			39	3.9	31	Calm	0	0		0	2s		Calm	Inap.	Inap.	Fair	
Decatur, Texas	28.85	732.8	30.02	762.5	54	12.2	61	NE	8	3.6		2ck	0	NE		0	0	Fair	
Denison, Texas	29.15	740.4	29.95	760.7	49	9.4	57	N	6	2.7		5cs	0	Calm		0	0	Fair	
Denver, Colorado	24.73	628.1	29.95	760.7	45	7.2	24	E	10	4.5		8ck	2s	NW	Calm	0	0	Cloudy	
Des Moines, Iowa	29.03	737.3	29.93	760.2	36	2.2	80	NW	6	2.7			10s		Calm	0	0	Cloudy	
Detroit, Michigan	28.97	735.8	29.64	752.8	34	1.1	100	NE	10	4.5			10n		Calm	0.52	13.2	Sleeting	
Dodge City, Kansas	27.38	695.4	29.76	755.9	28	— 2.2	54	N	3	1.3		0	0			0	0	Clear	
Dubuque, Iowa	29.17	740.9	29.88	758.9	32	0.0	79	N	4	1.8			10s		Calm	0.24	8.6	Cloudy	
Duluth, Minnesota	29.22	742.2	29.93	760.2	24	— 4.4	87	E	8	3.6		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.22	742.2	29.94	760.5	59	15.0	88	NW	5	2.2			10s		N	0	0	Cloudy	
Eastport, Maine	29.86	758.4	29.92	760.0	29	— 1.7	72	W	3	1.3		5c	2s	NW	NW	0	0	Fair	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	28.86	733.5	29.60	751.8	38	3.3	91	NE	15	6.7			10n		Calm	0.29	7.4	Light rain	
Escanaba, Michigan	29.24	742.7	29.93	760.2	19	— 7.2	69	N	8	3.6			10s		NE	0	0	Cloudy	
Florence, Arizona	28.63	727.2	30.23	767.8	41	5.0	91	NE	3	1.3		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.67	702.8	29.67	753.6	14	—10.0	81	Calm	0	0		10cs	0	Calm		0.05	1.3	Cloudy	
Fort Custer, Montana	26.54	674.1			32	0.0	79	S	6	2.7		0	5s		Calm	0.09	2.3	Fair	
Fort Davis, Texas	25.24	641.1	30.20	767.1	52	11.1	60	SW	3	1.3		2cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.47	748.5	30.02	762.5	38	3.3	81	Calm	0	0		0	0			Inap.	Inap.	Clear	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	44	6.7	31	NE	5	2.2		0	0			0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.94	760.5	51	10.6	71	NW	4	1.8		0	5s		Calm	0.05	1.3	Fair	
Fort Keogh, Montana	26.97	685.0			32	0.0	89	Calm	0	0		0	0			Inap.	Inap.	Clear	
Fort McKavett, Texas	27.75	704.8	29.67	753.6	50	10.0	86	W	6	2.7		1c	4s	S	W	Inap.	Inap.	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.78	731.0	29.91	759.7	41	5.0	65	N	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.93	709.4			10	—12.2	39	S	2	0.9			10s		S	0.13	3.3	Cloudy	
Fort Verde, Arizona					33	0.6	61	[illegible]			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.18	715.8	29.75	755.6	50	10.0	65	S	1	0.4		2cs	5ks	Calm	Calm	0.01	0.3	Fair	
Galveston, Texas	29.99	761.7	30.04	763.0	67	19.4	95	S	6	2.7		1ck	2ks	SW	S	0	0	Fair	
Graham, Texas	28.89	733.8	29.96	761.0	46	7.8	84	Calm	0	0			10s		SW	0	0	Cloudy	
Grand Haven, Michigan	29.12	739.6	29.77	756.1	35	1.7	90	NE	16	7.2			10s		SE	0.04	1.0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.04	737.6	30.00	762.0	41	5.0	91	NE	2	0.9		0	0			0.02	0.5	Clear	
Indianapolis, Indiana	28.80	731.5	29.55	750.6	54	12.2	80	W	8	3.6			10s		W	0.78	19.8	Threatening	
Indianola, Texas	30.02	762.5	30.05	763.3	66	18.9	95	S	6	2.7		0	2s		S	0	0	Fair	
Jacksboro, Texas	28.88	733.5	30.05	763.3	47	8.3	85	NW	1	0.4		2c	0	NW		0.17	4.3	Clear	
Jacksonville, Florida	30.10	764.5	30.13	765.3	48	8.9	85	E	2	0.9		2ck	2s	Calm	Calm	0	0	Fair	
Keokuk, Iowa	29.23	742.4	29.86	758.4	37	2.8	90	NW	9	4.0			10s		Calm	0.18	4.6	Cloudy	
Key West, Florida	30.06	765.5	30.09	764.3	69	20.6	75	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	51	10.6	79	SW	14	6.3		8cs	0	SW		0	0	Fair	
Knoxville, Tennessee	28.90	734.0	29.90	759.4	54	12.2	67	SW	11	4.9			10s		SW	0.06	1.5	Cloudy	
La Crosse, Wisconsin	29.13	739.9	29.88	758.9	32	0.0	69	Calm	0	0			10n		Calm	0.02	0.5	Light snow	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	37	2.8	53	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.96	753.4	29.99	761.7	70	21.1	70	E	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	29.11	739.4	29.98	761.5	37	2.8	71	NW	6	2.7			10s			0	0	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.61	752.1	29.96	761.0	59	15.0	94	SW	2	0.9		0	0			0	0	Clear	
Los Angeles, California	29.83	757.7	30.18	766.6	52.0	11.1	73	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.11	739.4	29.65	753.1	59	15.0	59	S	12	5.4		2k	2s	SW	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.14	740.1	30.00	762.0	56	13.3	62	S	1	0.4		0	2ks		S	Inap.	Inap.	Fair	
Madison, Wisconsin	28.82	732.0	29.85	758.2	23	— 5.0	80	NW	17	7.6			10n		Calm	0.01	0.3	Light snow	
Marquette, Michigan	29.18	741.1	29.91	759.7	27	— 2.8	76	E	4	1.8			10s		NE	0	0	Cloudy	
Mason, Texas	28.36	720.3	30.11	764.8	56	13.3	94	NW	1	0.4		5cs	0	W		0	0	Fair	
Memphis, Tennessee	29.57	751.1	29.91	759.7	56	13.3	80	SW	15	6.7			10s		SW	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.04	737.6	29.79	756.7	30	— 1.1	89	N	13	5.8	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Mobile, Alabama	30.03	762.7	30.07	763.8	56	13.3	94	S	2	0.9	.....	5cs	2s;sm	W	W	0	0	Cloudy	
Montgomery, Alabama	29.83	757.7	30.07	763 8	55	12.8	80	SW	7	3.1	.....	8k	0	W	.....	0	0	Fair	
Morgantown, West Virginia	28.68	728.5	29.64	752.8	55	12.8	68	SW	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.48	596.4	29.84	757.9	17	— 8.3	83	W	12	5.4	.....	10k	5ks	Calm	W	0	0	Cloudy	
Nashville, Tennessee	29.31	744.5	29.84	757.9	58	14.4	70	SW	3	1.3	.....	0	Sm'e	.....	Calm	0.01	0.3	Clear	
New Haven, Connecticut	29.71	754 6	29.83	757.7	36	2.2	90	N	11	4.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
New London, Connecticut	29.79	756.7	29.84	757.9	40	4.4	91	NNE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.01	762.2	30.07	763.8	60	15.6	82	S	2	0.9	.....	0	s'm;fog	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.80	756.9	29.85	758.2	38	3.3	81	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.63	752.6	29.81	757.2	40	4.4	91	NE	10	4.5	.....	.....	10n;fg	.....	Calm	Inap.	Inap.	Light rain	
Norfolk, Virginia	29.81	757.2	29.87	758.7	49	9.4	71	S	11	4.9	.....	0	5s	.....	SW	0	0	Fair	
North Platte, Nebraska	26.97	685.0	29.65	753.1	23	— 5.0	80	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	41.5	5.3	82	S	6	2.7	.....	Haze	8s	.....	Calm	1.13	28.7	Cloudy	
Omaha, Nebraska	28.78	731.0	29.93	760.2	25	— 3.9	75	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.42	747.3	29.75	755.6	32	0.0	94	NE	20	8.9	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Pembina, Dakota	28.99	736.3	29.90	759.4	0	—17.8	100	Calm	0	0	.....	0	0	.....	.....	0.22	5.6	Clear	
Pensacola, Florida	30.07	763.8	30.10	764.5	52	11.1	93	E	1	0.4	.....	5ck	Fog	W	Calm	0	0	Foggy	
Philadelphia, Pennsylvania	29.72	754.9	29.77	756.1	41	5.0	91	NE	4	1.8	.....	.....	10s;fg	.....	SW;Calm	0	0	Cloudy	
Phœnix, Arizona	28.95	735.3	30.82	782.8	46	7.2	76	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.60	447.0	29.81	757.2	10	—12.2	38	NW	44	19.7	.....	5cs	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.20	741.7	30.02	762.5	50	10.0	72	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.15	613.4	29.92	760.0	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.84	732.5	29.63	752.6	51	10.6	79	SW	9	4.0	.....	.....	10s	.....	W	0.07	1.8	Cloudy	
Port Huron, Michigan	28.99	736.3	29.66	753.4	84	1.1	90	NE	15	6.7	.....	.....	10ks	.....	NE	0.09	2.3	Cloudy	
Portland, Maine	29.84	757.9	29.89	759.2	36	2.2	80	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.02	762.5	30.09	764.3	45	7.2	88	S	16	7.2	.....	0	8n	.....	SW	0.16	4.1	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.93	633.2	30.29	769.4	32	0.0	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.09	764.3	30.10	764.5	61	16.1	71	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.91	759.7	30.29	769.4	38.5	3.6	86	NW	7	3.1	.....	8k	0	NW	.....	0	0	Cloudy	
Rio Grande City, Texas	29.84	757.9	30.05	763.3	61	16.1	88	NE	.....	.....	1	0	Fog	.....	.....	0	0	Clear	
Rochester, New York	29 10	739.1	29.73	755.1	32	0.0	89	NE	20	8.9	.....	.....	10n	.....	NE	0.25	6.3	Sleeting	
Roseburg, Oregon	29.66	753.4	30.25	768.3	43	6.1	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.19	741.4	30.27	768.8	40	4.4	91	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29 27	743.4	29.85	758.2	43	6.1	75	W	20	8.9	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
St. Paul, Minnesota	29.00	736.6	29.96	761.0	27	— 2.8	88	NW	3	1.3	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	35	1.7	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.46	748.3	30.04	763.0	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.10	764.5	30.18	766.6	51	10.6	79	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	28.96	735.6	29.63	752.6	38	3.3	91	NE	22	9.8	.....	.....	10n	.....	Calm	0.98	24.9	Light rain	
Sandy Hook, New Jersey	29.76	755.9	29.80	756.9	30	3.9	91	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	30.20	767.1	30.27	768.8	46	7.8	84	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	18	— 7.8	68	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.00	762.0	30.10	764.5	53	11.7	67	SW	7	3.1	.....	8cs	Sm'e	SW	Calm	0	0	Fair	
Shreveport, Louisiana	29.74	755.4	29.96	761.0	64	17.8	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.01	762.2	30.05	763.3	57	13.9	81	SW	9	4.0	.....	8ck	1s	Calm	.....	0	0	Cloudy	
Socorro, New Mexico	25.53	648.4	29.60	751.8	35	1.7	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.16	740.7	29.83	757.7	49	4.4	82	NW	14	6.3	.....	.....	10s	.....	NW	0.80	20.3	Cloudy	
Springfield, Massachusetts	29.74	755.4	29.87	758.7	37	2.8	81	NE	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Stockton, Texas	27.04	686.8	30.04	763.0	48	8.9	4	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.83	757.7	29.89	759.2	42	5.6	100	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Toledo, Ohio	28.97	735.8	29.66	753.4	36	2.2	100	NE	13	5.8	.....	.....	10n	.....	N	0.50	12.7	Light rain	
Tucson, Arizona	27.68	70 .1	30.22	767.6	43	6.1	58	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.63	752.6	30.13	765.3	41	5.0	82	W	6	2.7	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.11	739.4	29.93	760.2	56	13.3	87	S	1	0.4	.....	10cs	0	Calm	.....	0	0	Cloudy	
Vicksburg, Mississippi	29.77	756.1	30.03	762.7	61	16.1	82	SW	6	2.7	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Virginia City, Montana	24.10	612.1	29.58	751.3	38	3.3	72	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.86	758.4	30.24	768.1	37.5	3.1	90	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.66	753.4	29.77	756.1	47	8.3	77	S	6	2.7	.....	.....	10n	.....	SW	0.13	3.3	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	81	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.93	760.2	30.01	762.2	55	12.8	66	SW	9	4.0	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	36	2.2	61	SW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	29.82	757.4	29.86	758.4	42	5.6	83	SE	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.64	727 4	30.00	762.0	22	— 5.6	86	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Yuma, Arizona	29.99	761.7	30.14	765 5	46	7.8	62	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.7	69	20.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	74	23.3	86	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.89	759.2	29.97	761.2	75.5	24.2	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	82	27.8	83	NE	.....	.....	2	5k	7ks	E	.....	0.130	3.30	⅝ cloudy	C. J. Hering.
Santiago de Cuba, W. I.	30.02	762.5	30.04	763.0	70	21.1	81	N	6	2.7	.....	0	2s	.....	N	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29 99	761.7	30.05	763.3	—33.5	—36.4	.....	W	12	5.4	.....	0	4s	.....	W	0.04	1.0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 549(?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.18‡	766.6‡			54	12.2	87	N	2	0.9			2		SW					Fair	
Navy Yard, Portsmouth, N.H.	29.44‡	747.8‡			33	0.6	89	NE	1	0.4			10							Raining	
Alaska, Coquimbo, Chili	29.92‡	760.0‡			64	17.8	83	NNW			1		10		S					Hazy	
Colorado, New York, N. Y.	29.75‡	755.6‡			39	3.9	100	N	10	4.5			Fog			0	0			Dense fog	
Constitution, Fredericksted, Santa Cruz, W. I.	29.96‡	761.0‡			74	23.3	86	N			2		4		N					Clear	
Enterprise, Piraeus, Greece	29.99‡	761.7‡			51	10.6	79	NNE			2		10		N			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.93‡	760.2‡			50	10.0	65	SSW	10.8	4.8			2		NW	0	0			Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.26‡	768.6‡			44	6.7	84	S	1.2	0.5			0			0	0			Foggy	
Kearsarge, Key West, Fla	30.10‡	764.5‡			71	21.7	75	ENE			2		5		E			Smooth		Fair	
Lackawana, N. 33° 26′, W. 153° 19′	30.32‡	770.1‡			62	16.7	100	SE			3		5		SE			Smooth	SE	Fair	
Marion, S. 5° 11′, W. 34° 40′	29.89‡	759.2‡			83	28.3	79	ESE			3		2		ESE	0	0	Smooth	ESE	Clear	
Michigan, Erie, Pa.	29.79‡	756.7‡			38	3.3	54	ENE			3		10		ENE					Drizzling	
Monocacy, Shanghai, China	30.31‡	769.9‡			43	6.1	83	NE			2		10							Raining	
New Hampshire, Port Royal, S. C.	30.18‡	766.6‡			55	12.8	80	WSW	12	5.4			8		Calm	0	0			Clear	
Nipsic, La Guayra, Venezuela, S. A.	29.89‡	759.2‡			76	24.4	91	ENE			2		10		ENE			Long	ENE	Raining	
Onward, Callao, Peru	29.89‡	759.2‡			67	19.4	95	SE			2		10					Mod'te smooth	W	Foggy	
Palos, Tientsin, China	30.57‡	776.5‡			28	— 2.2	100	NNE			2		10							Overcast	
Passaic, Washington, D. C.	29.80‡	756.9‡			48	8.9	85	S			1		8							Cloudy	
Pensacola, Callao, Peru	29.89‡	759.2‡			66	18.9	100	SSE			1		10					Smooth		Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.85‡	758.2‡			42	5.6	83	ENE			3		10			Light	Light			Rain & fog	
Quinnebaug, Leghorn, Italy	30.30‡	769.6‡			42	5.6	50	E			5		0							Clear	
Ranger, N. 33° 35′, W. 151° 10′	30.32‡	770.1‡			62	16.7	83	SE			2		10		E			Smooth		Cloudy	
Richmond, Hong-Kong, China	30.16‡	766.1‡			64	17.8	94	ENE			2		10		E			Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	30.17‡	766.3‡			65	18.3	100	S	1	0.4			2		S	0	0			Fair	
Santee, Annapolis, Md	29.80‡	756.9‡			50	10.0	86	Var.			1		10		SW	0	0			Overcast	
Shenandoah, Montevideo, Uruguay	29.72‡	754.9‡			69	20.6	80	SW			5		8		SW			Mod'ate	SW	Fair	
St. Louis, League Island, Pa.	29.81‡	757.2‡			41	5.0	91	E	5	2.2			10		SW					Light rain	
Swatara, Boston, Mass.	29.87‡	758.7‡			40	4.4	91	NE			2		10		NE					Cloudy	
Tennessee, Hampton Roads, Va.	29.87‡	758.7‡			51	10.6	79	SW	19	8.5			3		NE	0	0			Hazy	
Trenton, N. 43° 0′, E. 6° 55′	30.31‡	769.9‡			43	6.1	59	ESE			5		2		E	0	0	Long	E	Fair	
Tuscarora, La Union, S. Salvador	29.94‡	760.5‡			78	25.6	61	N			2		0					Smooth		Clear	
Wabash, Boston, Mass.	29.84‡	757.9‡			36	2 2	90	Calm	0	0			10							Light rain	
Wyoming, Toulon, France	30.28‡	769.1‡			48	8.9	85	ESE			1		2		SE			Smooth	SE	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	OBSERVER
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks, N. 38° 35′, W. 72° 09′		29.84‡	757.9‡				W			2		0		NNE	0	Light	W	Fair	W. E. Jago.
S. S. Circassian, N. 51° 06′, W. 38° 48′		29 52‡	749 8‡	49	9.4	98	SSE			5		5		W		Mod'ate	SE	Threatening	R. Carruthers.
S. S. Hibernian, F. Archer, N. 51° 42′, W 29°33′		30 09‡	764.3‡	49	9.4		NE			6		8		ENE		Mod'ate	ENE	Cloudy	John France.
S. S. Moravian, J. Graham.																			
S. S. Peruvian																			A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																			A. D. Air.
S. S. Sarmatian, A. D. Air.																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 46° 58′, W. 48° 21′		29.89‡	759.2‡	40	4.4		SSE			8		9		S	Mod'ate	Mod'ate	S	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 41° 50′, W. 55° 12′		29.86‡	758.4‡				N			5		10		NNE		Mod'ate	WNW	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 38° 04′, W. 34° 34′		29.73‡	755.1‡				NW			6		10		NW		Cross	NW	Light rain	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 35° 11′, W. 136° 14′ †		30.22‡	767.6‡	60	15.6	76	N			3		5		N		Smooth		Fair	D. A. Joyce.
S. S. Gaelic, Davidson, N. 27° 41′, E. 126° 29′ †		30.26‡	768.6‡	68	20.0		SE			2		k		E	0	Smooth	NE	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 33° 44′, E. 137° 10′ ...†		30.27‡	768.8‡	40	4.4		NNE			5		0			0	Smooth		Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 21° 18′, W. 157° 55′		30 09‡	764.8‡				ENE			6							NE	Squally	
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson N. 49° 49′, W. 11° 08′		30.24‡	768.1‡	51	10.6		ESE	25	11.2			0			0	Mod'ate	ESE	Clear	
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 40° 41′, W. 68° 10′		29.92‡	760.0‡	41	5.0		SE			2				C	0	Light	NE	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Adele Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 06′, W. 2° 10′		29.97‡	761.2‡	61.5	16.4		NNW			5		5		NNW		Mod'ate	NNW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin, N. 21° 05′, W. 64° 56′ ...†		30.08‡	764 0‡	77	25.0		NNW			4		2		N	0	Smooth		Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 21, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.11	764.8	.....	.....	.....	SW	.....	.....	3	.....	7	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	30.17	766.3	68.6	14.8	78	NW	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.28	769.2	55.4	13.0	66	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Touriliere.
La Calle	.....	.....	30.34	770.6	52.0	11.6	73	E	.....	.....	2	.....	7	.....	.....	0.354	9.0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.36	771.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau
Saida	.....	.....	30.21	767.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.29	769.4	45.3	7.4	61	N	.....	.....	2	.....	7	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	NW	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Bruguiaux.
Laghouat	.....	.....	30.29	769.4	51.4	10.8	35	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.31	769.9	53.2	11.8	80	WNW	.....	.....	1	.....	9	.....	.....	0	0	Covered.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.67	753.5	30.27	768.8	15.3	— 9.3	81	.....	.....	.....	.....	2	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.26	743.1	30.08	763 9	23.4	— 4.8	100	W	2.2	1.0	.....	10	.....	.....	0.020	0.5	.....	Julius Mikolik.
Gratz	29.20	741.6	30.18	766.6	4.1	—15.5	100	N	.....	.....	3	10	.....	.....	0.009	0.24	.....	Andreas Rospini.
Hermannstadt	28.87	733.2	30.19	766.7	31.6	— 0.2	49	WNW	.....	.....	4	0	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	28.70	728.9	30.29	769.3	7.5	—13.9	100	WNW	.....	.....	1	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.89	733.9	30.34	770.5	25.2	— 3.8	93	WNW	.....	.....	2	6	.....	.....	0.059	1.5	.....	Dr. T. Stanecki.
Pola	28.95	735.4	30.02	762.6	15.1	— 9.4	97	W	.....	.....	2	10	.....	.....	0.067	1.7	.....	I.R.Hydrographic Office
Szathmar	30.17	766.4	30.29	769.4	31.6	— 0.2	85	WNW	.....	.....	2	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.76	756.0	30.28	769.1	10.4	—12.0	93	SE	.....	.....	3	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.051	1.30	.....	P. Busin.
Vienna	30.20	767.0	30.30	769.6	30.6	— 0.8	81	NW	.....	.....	0	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	29.43	747.6	30.17	766.3	26.4	— 3.1	80	WNW	.....	.....	1	10	.....	.....	0.110	2.8	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.34	770.7	30.56	776.2	36.1	2.3	95	W	.....	.....	0	10	.....	NW	0.039	1.00	.....	.....	Royal Observatory.
Furnes	30.57	776.5	30.60	777.1	37.2	2.9	95	WSW	.....	.....	2	10	.....	.....	0.028	0.7	Rain & fog	.....	M. E. de Cae.
Maeseyck	30.43	773.0	30.56	776.2	34.5	1.4	86	WNW	.....	.....	0	3	.....	.....	0.28	7.	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.45	773.4	30.55	776.0	38.0	3.3	.....	W	8	3.6	.....	.....	5	.....	.....	0.020	0.51	Blue sky	W. Boswell.
Ardrossan	30.61	777.5	30.63	778.0	34	1.1	.....	ENE	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	G.Carrick.
Armagh, (Observatory)	30.44	773.2	30.70	779.8	23.9	— 4.5	.....	S	0	0	.....	.....	0	.....	.....	.....	.....	Misty	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.65	778.5	35.1	1.7	.....	WNW	3	1.3	.....	.....	1	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	30.06	763.5	30.60	777.2	30 9	— 0.6	.....	E	.....	.....	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.19	766.8	30.59	777.0	36.3	2.4	82	W	.....	.....	1	.....	2	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	77	25.0	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.52	775.2	30.62	777.7	35.0	1.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.60	777.2	34 0	1.1	.....	W	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.48	774.2	30.62	777.7	34.2	1.2	.....	N	.....	.....	1	.....	10k	.....	.....	.....	.....	Overcast	W. Gibson, Sapper, R.E.
Donaghadee	30.64	778.2	30.68	779.3	35	1.7	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Mac Gowan.
Dover	30.56	776.2	30.60	777.2	36	2.2	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.36	771.1	30.60	777.2	38.9	3.8	.....	ESE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.63	701.8	29.85	758.2	80.2	26.8	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.56	776.2	34.5	1.4	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.41	772.4	30.61	777.5	30.3	— 0.9	.....	SW	.....	.....	1	.....	Fog	.....	.....	.....	.....	Dense fog	D. G. Maclean.
Great Yarmouth	30.55	776.0	30.56	776.2	38	3.3	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.45	773.4	30.63	778.0	29.7	— 1.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff, for G.B.Airy.
Guernsey	30.37	771.4	30.60	777.2	36.5	2.5	.....	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Dr. S.E Hoskins, F.R.S.
Helston	30.69	779.5	30.82	782.8	40	4.4	.....	E	.....	.....	6	.....	4k	.....	.....	0	0	Fair	M. P. Moyle.
Holyhead	30.56	776.2	30.65	778.5	35	1.7	.....	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.34	770.6	30.64	778.2	37.8	3.2	.....	ESE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew (Observatory)	30.60	777.2	30.64	778.2	30.2	— 1.0	.....	WSW	4	1.8	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.35	770.9	30.62	777.7	33.9	1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.12	765.0	30.20	767.1	49.6	9.8	.....	NW	.....	.....	2	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	30.44	773.2	30.54	775.7	38	3.3	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.02	762.5	70.5	21.4	.....	E	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.44	773.2	30.64	778.2	33.7	0.9	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	30.09	764.3	30.65	778.5	33.2	0.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Snow-fog	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.39	771.9	30.65	778.5	30	— 1.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.54	775.7	30.62	777.7	36.0	2.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John Merrifield.
*Roche's Point	30.52	775.2	30.60	777.2	42	5.6	.....	SE	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	30.47	773.9	30.65	778.5	35	1.7	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.47	773.9	42.7	5.9	.....	W	27	12.1	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.08	764.0	30.15	765.8	27.4	— 2.6	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Serg't W. H. Lyne.
Sheffield	30.35	770.9	30.64	778.2	38.4	3.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling	W. F. Cooper.
Silloth Rectory	30.65	778.5	30.68	779.3	31.8	— 0.1	77	Calm	.....	.....	0	.....	8	.....	.....	0	0	D. clouds	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.62	777.7	31.5	— 0.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	31.8	— 0.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Rev. C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.52	775.2	30.61	777.5	41	5.0	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	30.51	774.9	30.53	775.4	43.1	6.2	.....	ESE	27	12.1	.....	.....	2	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.80	756.9	29.84	757.9	89	31.7	36	NW	29.7	13.3	.....	0	3ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7	.....	.....	95	35.0	.....	W	.....	.....	.....	2c	4kn	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	89	31.7	.....	SE	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	29.92	760	60.8	16	.....	SE	.....	.....	Calm	.....	slight	.....	.....	0	0	Bright	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.81	757.2	30.00	762.0	80.8	27.1	65	ESE	16.0	7.2	.....	5	2	SSE	ESE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.94	760.5	30.03	762.7	62.6	17.0	85	S	9	4.0	.....	.....	6	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.58	776.7	42	5.6	.....	W	.....	.....	3	0	0	.....	.....	0	0	.....	.....
North Unst, Shetland Is.	.....	.....	30.30	769.6	.....	.....	.....	NW	.....	.....	6	5	3	NW	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from -	Weather.	Observer.
H. M. S. Alert, Tilly Bay, Patagonia	.....	.....	29.38‡	746.2‡	44.5	6.9	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Showery	Capt. A. J. Brown
City of Agra, S. 54° 08′ W. 104° 29′	.....	.....	29.57‡	751.1‡	44.8	7.1	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Hailing	Capt. Thos. Young.
City of Cashmere, S. 52° 08′, W. 54° 10′	.....	.....	29.35‡	745.5‡	48	8.9	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 36° 50′, W. 30° 40′	.....	.....	29.80‡	756.9‡	60.3	15.7	.....	NNW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
Barque Dochra, S. 39° 54′ W. 122° 46′	.....	.....	30.21‡	767.3‡	67	19.4	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	Capt. N. Spalding.
Barque Fedalma, N. 48° 05′, W. 22° 10′	.....	.....	29.92	760.0	.....	.....	.....	ESE	.....	.....	3	.....	6	.....	.....	5	E	D. clouds	Capt. H. L. Fox.
Bate Fylde, N. 45° 10′, W. 24° 05′	.....	.....	29.84	757.9	58	14.4	.....	E	.....	.....	4	.....	9	.....	.....	7	ENE	Drizzling	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.81‡	757.2‡	73	22.8	.....	E	.....	.....	6	.....	1	.....	.....	.....	.....	Misty	Capt. O. D. Coxwell.
S. S. Richmond, Fortune Islands, Bahama Islands	.....	.....	30.04	763.0	78	25.6	.....	E	.....	.....	2	.....	4	.....	.....	4	NE	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 1° 10′, E. 84° 27′	.....	.....	29.94‡	760.5‡	80.8	27.1	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 36° 30′, E. 15° 00′	.....	.....	30.16	766.1‡	47.5	8.6	.....	WNW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.16	664.4	29.88	758 9	62.6	17.0	87	SE	.....	.....	2	3c;d	....	NE	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.30	769.5	30.34	770.7	25.0	— 3.9	71	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Farõe	30.41	772.4	30.44	773.1	32.4	0.2	83	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	30.29	769.4	30.34	770.5	37.8	3.2	93	SE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	30.31	769.9	30.35	770.8	42.8	6.0	79	NW	.....	.....	6	.....	7	.....	.....	.....	.....	Raining	.....
Vestervig	30.24	768.0	30.35	770.8	31.3	— 0.4	89	S	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	30.08	764.1	30.63	778.1	32.9	0.5	92	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.49	774.4	30.61	777.4	34.2	1.2	85	NW	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.32	770.0	30.60	777.1	29.8	- 1.2	.....	NW	.....	.....	1	.....	n	.....	.....	0	0	Foggy	Klein, Commandant.
Avignon, Normal School	30.26	768.7	30.34	770.7	35.1	1.7	55	N	.....	.....	4	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	30.01	762.2	30.61	777.5	25.5	— 3.6	90	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.34	770.6	30.63	777.9	34.0	1.1	76	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.64	752.8	30.61	777.5	24.8	— 4	.....	ENE	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	A. Carré, Director.
Bordeaux	30.17	766.3	30.37	771.3	38.5	3.6	35	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.65	753.1	30.56	776.3	15.1	— 9.4	100	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	30.04	763.1	30.64	778.2	28.4	— 2	94	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.30	769.7	30.55	775.9	40.6	4.8	74	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Ch. de Kermaree, Dir.
Caen, Normal School	30.56	776.3	30.64	778.3	32.4	0.2	88	E	.....	.....	1	.....	1	.....	E	0	0	Very clear	M. Bletrin, Director.
Carcassonne, N. School	29.87	758.8	30.31	769.8	44.6	7	97	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.26	768.5	30.60	777.3	30.2	— 1.0	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.99	761.8	30.59	777.1	33.4	0.8	86	N	.....	.....	1	.....	1	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	29.09	738.8	30.54	775.7	29.5	— 1.4	70	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.64	752.9	30.58	776.6	26.4	— 3.1	.....	WNW	.....	.....	1	.....	5km	WNW	WNW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.16	740.6	30.30	769.6	42.1	5.6	46	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	L. Klus, Director.
Grenoble, Normal School	29.70	754.3	30.54	775.7	21.6	— 5.8	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.30	769.5	30.52	775.2	35.8	2.1	96	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Moullot, Director.
Le Mans, Normal School	30.29	769.3	30.62	777.7	30.6	— 0.8	89	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.59	751.5	30.56	776.2	15.6	— 9.1	73	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.45	773.5	30.56	776.3	37.4	3.0	72	ENE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.89	759.1	30.56	776.2	21.6	— 5.8	80	N	.....	.....	1	.....	1	.....	NNE	0	0	Light mist	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.99	761.8	30.27	768.8	44.6	7.0	50	NW	.....	.....	2	.....	2	.....	ESE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.45	747.9	30.57	776.4	27.0	— 2.8	96	SSW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Barbier, Director.
Mont-Louis	25.00	634.9	30.31	769.9	38.3	3.5	82	E	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	30.28	769.1	30.32	770.0	44.6	7.0	69	E	.....	.....	2	.....	.....	S	E	0	0	Misty	M. Boissière, Director.
Nismes, Normal School	30.13	765.2	30.34	770.7	39.7	4.3	62	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.32	770.1	.....	.....	32.2	0.1	80	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.25	768.3	30.36	771.2	41.5	5.3	40	SW	1.8	0.8	.....	.....	0	.....	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.59	573.8	.....	.....	28.9	— 1.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.29	744 0	30.42	772.6	36.0	2.2	.....	N	.....	.....	4	.....	1	N	N	0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	25.32	643.0	.....	.....	15.4	— 9.2	94	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.42	772.7	30.45	773.5	39.2	4.0	83	NE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.52	775.3	30.61	777.5	30.9	— 0.6	74	SE	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.55	776.0	30.58	776.8	36.3	2.4	58	ESE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.44	773.1	30.60	777.3	32.0	0.0	80	NNE	.....	.....	1	.....	10	.....	NE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.21	741.9	30.33	770.4	41.9	5	39	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.67	753.5	30.40	772 1	36.3	2.4	68	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.41	772.4	30.61	777.4	32.0	0.0	.....	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	30.09	764.2	30.58	776.7	32.7	0.4	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Lightly cov'd	Dr. A. Beriguy, Director
Villefranche-sur-Saone, N.S	29.81	757.1	30.58	776.8	25.5	— 3.6	98	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	29.88	758.9	29.91	759.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.54	775.8	30.57	776.4	33.8	1.0	90	N	15.2	6.8	.....	.....	10n	.....	.....	0.252	6.4	Snowing	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.51	749.6	30.39	771.8	25.2	— 3.8	75	NW			4		4k		NW	0.394	10.0		Prof. Dr. Hoh.
Berlin	30.16	766.0	30.34	770.7	28.4	— 2.0	72	NE			2		6	N		0.209	5 3		Prof. Dr. Arndt.
Breslau	29.60	751.8	30.13	765.3	23.9	— 4.5	90	NW			4		10			0.278	7.04	Snowing	Royal University Obs'y.
Carlsruhe	30.04	763.1	30.51	774.9	26.4	— 3.1	88	SW			4		5	NW		0.087	2.2		Albert Senz.
Cassel	29.84	758.0	30.46	773.6	26.1	— 3.3	81	N			4		2	W		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.17	766.4	30.56	776.2	30.6	— 0.8	59	S			2		3			0.035	0.9		Physical Society.
Friedrichshafen	29.90	736 6	30.55	776.0	23.4	— 4.8	71	W			2		10	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.37	771.5	30.45	773.3	27.7	— 2.4	85	NW			2		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.39	772.0	30.41	772.4	30.9	— 0.6	59	NNW			1		7			0.024	0.60		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.91	759.8	30.00	762.0	27.5	— 2.5	77	NE			2		8			0.012	0.3	Snowing	Prof. E. Luther.
Köslin			30.15	765.8	30.0	— 1.1		N			4		4			0.035	0.9		H. Müller.
Leipsic Observatory	29.94	760.5	30.39	772.0	25.5	— 3.6	80	NW			3		2			0.043	1.1		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.16	766.0	30.39	771.9	28.2	— 2.1	77	NNW			5		0			0.110	2.8	Clear.	Dr. Assmann.
Memel	30.01	762.3	30.06	763.5	15.6	— 9.1	91	NE			3		1s						Reinbrecht & Issermann.
Munich (München)	28.49	723.7	30.38	771.6	26.4	— 3.1	75	W			3		10	W		0.110	2.8	Snow-drifts.	Dr. C. Lang.
Neufahrwasser	30.05	763.3	30.07	763.7	30.6	— 0.8	92	N			3		10			0.157	4.0	Heavy snow	A. Lothes.
Neustadt (Palatinate)	29.93	760.1	30.46	773.7	36.0	2.2		W			3		10			0	0		Reallehrer Dicknether.
Posen	29.82	757.4	30.13	765.2	26.4	— 3.1	85	NW			6		7			0 173	4.4		Prof. Dr. Magener.
Strassburg (in Alsace)	29.99	761.8	30.59	777.0	23.9	— 4.5	83	SW			2		10	NW		0.024	0.60		Imp. University Observatory.
Stuttgart	29.49	749.0	30.49	774.4	31.1	— 0.5	75	NW					6	N		0.008	0.2		Prof. Dr. Schoder.
Thorn	29.90	759.5	30.09	764.3	28.2	— 2.1	85	NW			4		6			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.83	732.3	30.42	772.7	26.6	— 3.0	87	WNW	3.1	1.4			9kn		NW	0.167	4.0	Foggy	Reallehrer J. Hopfner
Wustrow	30.34	770.5	30.36	771.1	27.9	— 2.3	71	N			5		5ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.74	755.4	30.15	765.9	36.3	2.4		NE			2.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.02	762.6	73.1	22.8	56	WNW	8	3.6			0				0	0	D. clouds
Deesa	29.52	749.8	30.00	762.0	77.0	25.0	39	SSW	6.7	3.0			3	W			0	0	D. clouds
Bombay	29.92	759.9	29.96	760.9	75.7	24.3	79	NNW	19	8.5			6	W	WNW		0	0	D. clouds
Poona (Yarrowda)	28.08	713.2	29.92	760.0	84.0	28.9	20	NW	7	3.1			0				0	0	Blue sky
Belgaum	27.41	696.2	29.93	760.3	80.7	27.1	20	E	4	1.8			0				0	0	Blue sky
Lahore	29.29	744.0	30.08	763.9	56.6	13.7	46	Calm	0.7	0.3			5				0	0	Blue sky
Roorkee	29.08	738.7	30.02	762.6	60.2	15.7	68	NW	4.3	1.9			1				0	0	Blue sky
Agra	29.47	748.5	30.06	763.4	65.8	18.8	45	Calm	3.4	1.5			0				0	0	
Nagpur	28.91	734.2	29.96	760.9	78.9	26.1	42	E	1.7	0.8			0				0	0	Blue sky
Jubbulpore	28.61	726.8	30.01	762.2	71.3	21.8	49	E	1.1	0.5			0				0	0	Blue sky
Lucknow	29.64	753.0	30.04	763.0	63.3	17.4	31	Calm	2.3	1.0			0				0	0	Blue sky
Allahabad	29.73	755.1	30.06	763.4	61.8	16.6	66	Calm	3.2	1.4			3				0	0	D. clouds
Patna	29.81	757.2	30.00	762.0	70.3	21.3	66	W	1.6	0.7			2	W	W		0	0	
Hazaribagh	27.94	709.8	30.02	762.5	64.8	18.2	45	WNW	7.7	3.4			8				0	0	
Cuttack	29.89	759.3	29.98	761.4	76.1	24.5	65	Calm	1.0	0.4			3				0	0	D. clouds
Calcutta (Alipore)	29.96	761.0	29.98	761.5	71.3	21.8	60	NW	2.0	0.9			2				0	0	D. clouds
Goalpara	29.55	750.6	29.95	760.8	67.8	19.9	78	SSW	2.1	0.9			0				0	0	Blue sky
Chittagong	29.92	759.9	30.01	762.3	71.8	22.1	85	S	3.1	1.4			0			0.18	4.6	Misty	
Sibsagar	29.68	753.9	30.04	762.9	60.9	16.1	96	NW	1.3	0.6			10	W	W				Gloomy

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.85	758.2	30.20	769.3	27.0	— 2.8	51	E	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.78	756.4	30 33	770.4	27.1	— 2.7	96	SSW	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.18	766.5	30.30	769.5	21.7	— 5.7	72	NNW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.39	746.6	30.34	770.7	26.8	— 2.9	76	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.13	765.3	30.33	770.4	39.2	4.0	58	S	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.33	719.6	30.35	771.0	25.3	— 3.7	75	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.26	768.7	30.32	770.1	29.3	— 1.5	72	NW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.08	763.9	30.35	770.9	32.0	0.0	54	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.27	768.9	30.36	771 2	34.9	1.6	37	ENE	8.7	3.9	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.11	764.8	30.29	769.4	39.2	4.0	60	N	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.95	760.6	30.21	767.3	34.7	1.5	76	WNW	16.8	7.5	.....	.....	8	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.36	745.6	30.36	771.2	33.1	0.6	92	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Caglieri	30.07	763.8	30.27	768.8	47.1	8.4	45	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.05	763.3	30.31	769.8	43.9	6.6	57	NNE	4.3	1.9	.....	.....	9	.....	NNE	0.118	3.0	.....	Prof. G. Ciacciatore.
Syracuse	30.17	766.3	30.21	767.4	46.0	7.8	55	NE	6.3	2.8	.....	.....	9	.....	SW	0.063	1.6	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.72	755.0	30.28	769.1	38.3	3.5	51	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.12	765.0	30.13	765.3	39.2	4.0	96	NNE	4.0	1.8	.....	ck	8s	.....	W	0.434	11.02	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.08	762.7	30.24	768.1	47.1	8.4	76	W	6.8	3.0	.....	.....	10s	.....	.....	0.410	10.41	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.96	761.0	30.03	762.7	33.8	1.0	94	NNW	7.3	3.3	.....	.....	10n	.....	.....	0.095	2.41	Light rain	The Staff.
Wakayama	29.99	761.7	30.05	763.3	41.8	5.4	95	NE	2.0	0.9	.....	ck	10s	W	W	0.446	11.33	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.02	635.4	30.21	767.4	41.0	5.0	55	SW	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.41	620.0	30.20	767.0	51.1	10 6	82	N	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.70	754.4	29.96	761.0	65.5	18.6	85	NW	.....	.....	1	1s	0	.....	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.03	584.9	30.26	768.6	39.6	4.2	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	23.91	607.4	.....	.....	55.8	13.2	64	SE	.....	.....	6	7c	3k	E	SE	0	0	.....	M. Fena, M. D.
Pabellon (Aguascallentes)	23.91	607.4	30.00	762 1	48.7	9.3	65	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.33	592.5	30.31	769.8	38.3	3.5	42	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.12	612.6	30.25	768.4	44.6	7.0	68	E	.....	.....	1	1	0	E	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.90	759.5	29.91	759.8	64.9	18.3	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.92	760.0	29.95	760.7	68.0	20.0	87	Calm	0	0	.....	2k	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.54	572.6	30.25	768.3	50.0	10.0	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,708.6 m., or 5,601.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,366 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.57	776.5	30.57	776.5	39.2	4.0	.....	NW	.....	.....	2	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	30.49	774.4	30.54	775.8	32.2	0.1	.....	N	.....	.....	.....	.....	.....	.....	.....	0.020	0.5	.....	
Helder	30.54	775.7	30.54	775.7	35.4	1.9	.....	WSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.55	776.0	30.55	776.0	39.7	4.3	83	NNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.50	774.8	30.55	776.0	35.4	1.9	82	NW	.....	.....	2	.....	2	.....	.....	0.020	0.5	Sl'tly cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht they give 21 as published, from which is inferred the amount of cloudiness by the scale to 10 without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.25	768.3	30.30	769.7	32.7	0.4	81	SSE	13.4	6.0	.....	.....	10	.....	.....	0.252	6.4	Snowing	
Brönö	29.81	757.1	29.85	758.1	53.8	1.0	81	SW	36	16	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.17	766.2	30.33	770.3	18.9	— 7.3	87	Calm	0	0	.....	.....	5	.....	.....	0	0	Light fog	
Tromsö	29.48	748.9	29.53	750.0	33.4	0.8	94	SW	25	11	.....	.....	10	.....	.....	0.457	11.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.13	765.4	54.0	12.2	63	ENE	15.4	6.9	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.73	755.2	29.82	757.4	64.4	18.0	72	SSW	6.3	2.8	.....	.....	10	.....	.....	0.339	8.6	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.72	754.9	30.08	764.1	56.7	13.7	62	E	15.0	6.7	.....	.....	10	S	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.52	749.8	29.59	751.6	62.2	16.8	73	Calm	0	0	.....	.....	3	.....	.....	0.039	1.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	A. . e Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de O. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd'r.
Rio Lima. Capt. S. C. da Silva Costa. Bulama. Bissago Islands., Africa.	.....	.....	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd'r.
Sado, Capt. J. A de Brito Capello. Mossamedes, Lower Guinea	2	NNW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimarães, Macao, China	2	N	Foggy	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.30	769.6	30.32	770.1	17.9	—27.7	85	ESE	4	2	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.09	764.2	30.00	762.1	23.4	— 4.8	95	ESE	18	8	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.21	767.4	30.82	782.8	—27.0	—32.8	91	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.97	761.2	30.25	768.3	—10.1	—23.4	92	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.52	749.9	30.61	777.6	— 2.4	—19.1	83	SE	4	2	.....	c	5cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.96	761.0	30.26	768.6	7.0	—13.9	74	SSE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.35	745.6	30.06	763.5	2.1	—16.6	85	NW	7	3	.....	.....	5cks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.72	754.8	30.24	768.2	3.9	—15.6	74	SE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.61	752.2	23.83	757.7	23.9	— 4.5	93	SE	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Moscow	29.42	747.2	30.03	762.7	3.0	—16.1	71	E	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.17	715.4	30.92	785.4	—28.8	—33.8	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Solar corona	Meteorological Obs.
Nikolaiev	30.10	764.6	30.17	766.4	3.9	—15.6	76	N	9	4	.....	.....	1cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.96	760.9	30.22	767.5	7.5	—13.6	96	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.79	782.1	30.93	785.7	7.3	—13.7	50	NW	20	9	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.21	767.4	30.23	767.8	— 4.9	—20.5	79	Calm	0	0	.....	.....	5n	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.59	726.3	30.26	768.7	30.9	— 0.6	88	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.64	727.6	30.11	764.7	40.8	4.9	57	Calm	0	0.	.....	.....	10s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.51	749.6	29.96	760.9	28.4	— 3.1	85	NW	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.59	751.5	30.05	763.2	10.2	—12.1	77	E	2	1	.....	.....	1	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yeniseisk	30.58	776.6	30.91	785.2	—14.1	—25.6	82	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.24	768.1	30.35	770.8	45.1	7.3	59	ENE	1.7	0.75	.....	.....	1	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.3	30.27	768.8	55.8	13.2	65	SE	4.4	1.96	.....	2	0	NW	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	693.0	.....	.....	31.1	— 0.5	97	NE	4.5	2.00	.....	0	0	.....	.....	0	0	Dense fog	Domingo Martin y Perez.
Madrid, Royal Observatory	28.02	711.7	30.24	768.2	47.1	8.4	90	E	7.4	3.33	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.16	766.0	30.31	769.9	54.3	12.4	60	ENE	2.8	1.25	.....	5	5	SW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	741.8	30.10	764.5	58.1	14.5	60	SE	13.7	6.1	.....	.....	8	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.3	68.8	17.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.93	760.3	29.98	761.6	81.5	27.5	78	NE	.....	.....	.....	.....	9ck	.....	E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.5	30.08	764.1	59.4	15.2	65	ESE	30.0	13.4	.....	0	10	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	75.2	24.0	70	NE	7.8	3.50	.....	7cks	7kn	NE	NE	0	0	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.6 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.09	764.3	30.13	765.3	- 3.6	—19.8	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.12	765.1	30.17	766.4	10.8	—11.8	100	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.18	766.5	30.23	767.8	15.1	— 9.4	81	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	
Stockholm	30.11	764.8	30.29	769.3	19.9	— 6.7	81	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.03	762.8	30.09	764.3	27.0	— 2.8	87	ENE	.....	.....	6	.....	10	.....	.....	0.079	2.0	.....	
Sub-Series.																			
Upsala	30.15	765.8	30.24	768.0	22.3	— 5.4	76	NE	6.5	2.9	.....	.....	8	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.00	736.7	30.54	775.6	20.8	— 6.2	89	N	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.80	731.5	30.56	776.3	19.4	— 7.0	95	NW	.....	.....	1	.....	8	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +0 2 mm.; Thermometer, —7 7 Cent. Relative Humidity, +10 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.22	767.6	27.1	2.7	100	N	17	7.5	.....	.....	10	.....	N	0.787	20.0	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.7	34.0	1.1	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.05	763.2	62.4	16.9	51	NE	.....	.....	1	8c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.94	760.5	29.95	760.7	10.6	—11.9	.....	NE	12	5.4	.....	.....	.....	.....	.....	.....	.....	Snowing	Hon. J. Ferguson.
Chatham, N. B	29.86	758.4	29.93	760.2	10.5	—11.9	100	NE	18	8.0	.....	.....	10n	.....	.....	0.20	5.1	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.79	756.7	17.4	— 8.1	100	NE	24	10.7	.....	.....	10n	.....	.....	0.40	10.2	Snowing	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.97	761.2	8.0	—13.3	100	NW	.....	.....	1	.....	10s	.....	.....	0.70	17.8	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.89	759.2	30.07	763.8	6.0	—14.4	.....	E	1	0.4	.....	.....	10n	.....	.....	0.15	3.8	Heavy snow	H. A. Johnson.
Father Point, Quebec	30.04	763.0	30.06	763.5	7.1	—13.8	88	NE	30.0	13.4	.....	.....	10n	.....	.....	0.05	1.3	Heavy snow	J. McWilliams.
Fredericton, N. B	29.68	753.9	29.75	755.6	11.2	—11.6	96	NE	22	9.8	.....	.....	10n	.....	.....	0.05	1.3	Snowing	Prof. Harrison.
Fort Garry, Manitoba	28.80	731.5	29.67	753.6	14.0	—10.0	100	NW	5	2.2	.....	0	0	.....	.....	0.51	13.0	Clear	James Stewart.
Granton, Ontario	28.83	732.3	29.98	761.5	26	— 3.3	.....	Calm	.....	.....	0	.....	10n	.....	.....	Inap.	Inap.	Clearing	James Grant.
Halifax, N. S	29.51	749.5	29.64	752.8	32.3	0.2	97	E	20	8.9	.....	.....	10n	.....	.....	0.30	7.6	Heavy rain	A. Allison.
Hamilton, Ontario	29.63	752.6	30.03	762.7	18.3	— 7.6	87	N	.....	.....	1	0	0	.....	.....	0.22	5.6	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.62	752.3	29.98	761.5	10.3	—12.1	82	N	4	1.8	.....	0	0	.....	.....	0.33	8.4	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.89	759.2	29.93	760.2	27.2	— 2.7	88	E	10	4.5	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.70	754.4	29.92	760.0	9.1	—12.7	94	N	12	5.4	.....	6ck	4ks	.....	.....	0.60	15.2	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.07	763.8	30 11	764.8	—25.1	—31.7	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. R. Nelson.
Norwood	29.22	742.2	29.98	761.5	10.3	—12.1	100	N	2	0.9	.....	0	1s	.....	.....	0	0	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.29	744.0	30.06	763.5	0.0	—17.8	85	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.19	741.4	30.01	762.2	9.2	—12.7	56	N	.....	.....	1	0	0	.....	.....	0.30	7.6	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.29	744.0	30.02	762.5	22.1	— 5.5	100	Calm	0	0	.....	10ck	0	W	.....	0.20	5.1	Fair	H. Morgan.
Port Stanley, Ontario	29.31	744.5	29.99	761.7	27.3	— 2.6	86	W	4	1.8	.....	.....	10ks	.....	.....	0.10	2.5	Cloudy	M. Payne.
Quebec, Quebec	29.58	751.3	29.93	760.2	8.5	—13.1	89	E	.....	.....	7	.....	10n	.....	.....	0.30	7.6	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.52	749.8	30.04	763.0	0.2	—17.7	82	NW	6	2.7	.....	.....	10n	.....	.....	0	0	Hazy	W. H. McIntyre.
St. John, N. B	29.38	746.2	29.55	750.6	13	—10.6	100	NE	16	7.2	.....	.....	10n	.....	.....	.....	.....	Snowing	G. Murdock, C. E.
Saugeen, Ontario	29.25	742.9	30.03	762.7	10.4	—12.0	97	E	9	4.0	.....	1k	0	.....	.....	0.15	3.8	Clear	Miss K. Stewart.
Stratford, Ontario	28.63	727.2	29.99	761.7	19.4	— 7.0	97	Calm	0	0	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.94	760.5	29.98	761.5	25.7	— 3.5	83	S	7	3.1	.....	.....	10n	.....	.....	0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.61	752.1	30.02	762.5	17.4	— 8.1	83	NW	4	1.8	.....	0	2ks	.....	.....	0.16	4.1	Clear	Magnetic Observatory
Windsor, N. S	29.49	749.0	29.59	751.6	26.5	— 3.1	94	NE	9	4.0	.....	.....	10n	.....	.....	0.40	10.2	Hailing	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.88	733.5	30.02	762.5	19.6	— 6.9	99	W	2	0.9	.....	0	9s	.....	.....	0.30	7.6	Cloudy	Professor Wolverton.
Yarmouth, N. S	29.33	745.0	29.39	746.5	36.3	2.4	96	SE	25	11.2	.....	.....	10n	.....	.....	0.33	8.4	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.99	761.7	30.26	768.6	22	— 5.6	86	NE	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.07	763.8	31.3	— 0.4	.....	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instru'tal error and temperature. Inches.	BAROMETER. Corrected for instru'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.71	754.6	29.95	760.7	19	— 7.2	85	NW	17	7.6	.....	2k	8s	NW	NW	0.44	11.2	Fair..	
Alpena, Michigan	29.23	743.7	29.97	761.2	19	— 7.2	85	NW	2	0.9	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.77	730.7	29.90	759.4	55	12.8	87	W	3	1.3	.....	.....	Fog	.....	Calm	Inap.	Inap.	Dense fog....	
Atlantic City, New Jersey	29.93	760.2	29.94	760.5	35	1.7	90	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Augusta, Georgia	29.80	756.9	30.00	762.0	50	10.0	93	Calm	0	0	.....	1cs	5s	W	W	0	0	Fair.....	
Baltimore, Maryland	29.94	760.5	30.00	762.0	43	6.1	67	NW	9	4.0	.....	5c	0	W	.....	0.10	2.5	Fair	
Barnegat, New Jersey	29.91	759.7	29.93	760.2	34	1.1	79	NW	16	7.2	.....	2cs	0	W	.....	0.03	0.8	Clear.	
Bismarck, Dakota	27.84	707.1	29.70	754.4	22	— 5.6	85	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boerne, Texas	28.37	720.6	29.66	753.4	55	12.8	50	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.37	695.2	30.33	770.4	33	0.6	79	SE	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Boston, Massachusetts	29.57	751.1	29.74	755.4	26	— 3.3	63	W	14	6.3	.....	0	5ks	.....	W	0.06	16.8	Fair...	
Brackettville, Texas	28.68	728.5	29.74	755.4	44	6.7	92	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.58	725.9	29.60	751.8	23	— 5.0	100	W	8	3.6	.....	0	2s	.....	Calm	0	0	Clear.	
Brownsville, Texas	29.84	757.9	29.88	758.9	71	21.7	95	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.25	742.9	29.98	761.5	24.5	— 4.2	74	W	4	1.8	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.62	752.3	29.93	760.2	13	—10.6	81	N	13	5.8	.....	.....	10s	.....	N	0.27	6.9	Cloudy.....	
Cairo, Illinois	29.46	748.3	29.85	758.2	42	5.6	83	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	29.95	760.7	29.95	760.7	52	11.1	86	NE	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy..	
Cape Henry, Virginia	29.94	760 5	29.96	761.0	46	7.8	77	N	3	1.3	.....	0	2ks	.....	N	0	0	Clear	
Cape Lookout, N. Carolina	29.94	760.5	29.96	761.0	55	12.8	87	NW	12	5.4	.....	Haze	Haze	Calm	Calm	0	0	Dense haze..	
Cape May, New Jersey	29.92	760.0	29.95	760.7	39	3.9	72	NW	17	7.6	.....	0	0	.....	.....	0.02	0.5	Clear.	
Castroville, Texas	29.06	738.1	29.77	756.1	51	10.6	86	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	29.98	761.5	30.00	762.0	63	17.2	94	S	4	1.8	.....	1ck	2s	Calm	Calm	0	0	Fair	
Charleston, South Carolina	29.92	760.0	29.98	761.5	55	12.8	87	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Charlotte, North Carolina	29.69	738.9	29.91	759.7	48	8.9	93	NE	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.13	739.9	29.95	760.7	42	5.6	91	Calm	0	0	.....	1cs	Sm'e	Calm	Calm	Inap.	Inap.	Dense smoke	
Cheyenne, Wyoming	23.88	606.5	29.82	757.4	21	— 6.1	57	NW	18	8.0	.....	0	0	.....	.....	0.02	0.5	Clear.	
Chicago, Illinois	29.11	739.4	29.81	757.2	38	3.3	81	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	29.29	744.0	29.95	760.7	44	6.7	68	SE	6	2.7	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy.....	
Cleveland, Ohio	29.23	742.2	29.96	761.0	32.5	0.3	84	N	4	1.8	.....	.....	10s	.....	NW	0.33	8.4	Cloudy.....	
Coleman City, Texas	27.95	709.9	29.60	751.8	48	8.9	56	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.12	739.6	29.97	761.2	40	4.4	65	W	1	0.4	.....	.....	10ks	.....	W	0.08	2.0	Cloudy.....	
Concho, Texas	27.89	708.4	29.57	751.1	43	6.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.26	743.2	29.72	754.9	55	12.8	81	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.03	737.3	29.67	753.6	38	3.3	81	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	36	2.2	70	SE	.....	.....	1	0	5s	.....	W	0	0	Fair...	
Deadwood, Dakota	25.19	639.8	.....	.....	32	0.0	11	SW	4	1.8	.....	0	8s	.....	W	0.07	1.8	Fair...	
Decatur, Texas	28.50	723.9	29.62	752.3	66	18.9	45	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	28.34	732.5	29.62	752 3	52	11.1	66	SW	10	4.5	.....	5cs	0	SW	.....	0	0	Fair	
Denver, Colorado	24.69	627.1	29 91	759.7	28	— 2.2	66	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.67	728.2	29.54	750.3	37	2.8	81	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.25	742.9	29.94	760.5	32	0.0	89	S	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy.....	
Dodge City, Kansas	27.19	690.6	29.47	748.5	40	4.4	39	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	28.97	735.8	29.67	753.6	36	2.2	80	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.07	738.4	29.77	756.1	28	— 2.2	88	NE	6	2.7	.....	.....	10n	.....	NE	0.09	2.3	Light snow.	
Eagle Pass, Texas	29.13	739.9	29.86	758.4	53	11.7	67	NW	6	2.7	.....	0	Fog	.....	NW	0	0	Foggy.....	
Eastport, Maine	29.42	747.3	29.49	749.0	19	— 7.2	100	NE	29	13.0	.....	.....	10n	.....	.....	0.49	12.4	Sleeting.....	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.24	742.7	29.98	761.5	32	0.0	69	NW	3	1.3	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy.....	
Escanaba, Michigan	29.18	741.1	29.87	758.7	17	— 8.3	67	N	3	1.3	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy.....	
Florence, Arizona	29.54	750.3	30.14	765.5	40	4.4	82	SW	1	0.4	.....	5c	0	Calm	.....	0	0	Fair...	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.80	706.1	29.74	755.4	15	— 9.4	82	NW	12	5.4	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy.....	
Fort Custer, Montana	26.80	680.7	.....	.....	33	0.6	79	SW	28	12.5	.....	0	2s	.....	W	0	0	Fair...	
Fort Davis, Texas	25.08	637.0	30.04	763.0	52	11.1	54	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.00	736.1	29.58	751.3	52	11.1	79	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	38	3.3	88	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair...	
Fort Griffin, Texas	28.40	721.3	29.64	752.8	54	12.2	61	SW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.19	690.6	.....	.....	31	— 0.6	79	W	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.55	699.8	29.48	748.8	42	5.6	58	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.39	721.1	29.50	749.3	39	3.9	82	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.84	707.1	.....	.....	17	— 8.3	83	N	20	8.9	.....	.....	10s	.....	N	0.06	1.5	Cloudy.....	
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	64	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.01	711.4	29.54	750.3	55	12.8	68	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	29.80	756.9	29.84	757.9	67	19.4	89	SW	8	3.6	.....	0	1s	.....	Calm	0	0	Clear.	
Graham, Texas	28.56	725.4	29.58	751.3	55	12.8	45	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.21	741.9	29.87	758.7	34	1.1	90	SE	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.70	729.0	29.63	752.6	44	6.7	86	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.05	737.9	29.83	757.7	42	5.6	83	SE	6	2.7	.....	.....	10s	.....	S	0.01	0.3	Cloudy.....	
Indianola, Texas	29.85	758.2	29.88	758.9	64	17.8	94	SW	9	4.0	.....	0	0	.....	.....	0.06	1.5	Clear	
Jacksboro, Texas	28.48	723.4	29.58	751.3	50	10.0	86	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.00	762.0	60	15.6	88	SW	4	1.8	.....	Haze	5s	Calm	Calm	0	0	Fair...	
Keokuk, Iowa	28.99	736.3	29.60	751.8	39	3.9	82	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	29.99	761.7	30.02	762.5	70	21.1	80	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	29.94	760.5	29.97	761.2	49	9.4	71	NE	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	28.95	735.3	29.98	761.5	39	3.9	91	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
La Crosse, Wisconsin	28.89	733.8	29.63	752.6	38	3.3	63	S	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
La Mesilla, New Mexico	26.06	661.9	30.20	767.1	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.53	750.0	29.87	758.7	58	14.4	82	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear.	
Leavenworth, Kansas	28.76	730.5	29.60	751.8	39	3.9	82	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.39	746.5	29.75	755.6	51	10.6	79	Calm	0	0	.....	0	5s	.....	S	0	0	Fair...	
Los Angeles, California	29.74	755.4	30.09	764.3	49.5	9.7	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.32	744.7	29.88	758.9	46	7.8	77	E	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Lynchburg, Virginia	29.29	744.0	29.80	756.9	47	8.3	77	S	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	
Madison, Wisconsin	28.70	729.0	29.69	754.1	36	2.2	81	SE	14	6.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Marquette, Michigan	29.10	739.1	29.82	757.4	25	— 3.9	75	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Mason, Texas	28.16	715.3	29.89	759.2	53	11.7	80	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.46	748.3	29.89	759.2	48	8.9	77	E	7	3.1	.....	0	5s	.....	S	0	0	Fair...	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.05	737.9	29.79	756.7	34	1.1	90	S	9	4.0	.....	.....	10m	.....	Calm	Inap.	Inap.	Light snow.	
Mobile, Alabama	29.89	759.2	29.94	760.5	61	16.1	97	SW	4	1.8	.....	.....	10m	.....	Calm	0.39	9.9	Light rain...	
Montgomery, Alabama	29.69	754.1	29.93	760.2	67	13.9	87	SW	1	0.4	.....	8k	0	W	.....	0	0	Fair	
Morgantown, West Virginia	28.98	736.1	29.98	761.5	42	5.6	74	NW	2	0.9	.....	.....	10ks	.....	NW	0.29	7.4	Cloudy	
Mt. Washington, N. H.	23.13	587.5	29.49	749.0	17	— 8.3	100	NW	42	18.8	.....	.....	10n	.....	NW	0.94	23.9	Light snow.	
Nashville, Tennessee	29.37	746.0	29.92	760.0	36	3.3	81	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Dense fog....	
New Haven, Connecticut	29.73	755.1	29.85	758.2	31	— 0.6	69	W	13	5.8	.....	0	0	.....	.....	0.10	2.5	Clear	
New London, Connecticut	29.75	755.6	29.80	756.9	29	— 1.7	78	NW	8	3.6	.....	1ck	0	W	.....	0.12	3.0	Clear	
New Orleans, Louisiana	29.82	757.4	29.88	758.9	65	18.3	89	S	4	1.8	.....	.....	10s	.....	W	0	0	Threatenin	
Newport, Rhode Island	29.72	754.9	29.78	756.4	29	— 1.7	78	W	25	11.2	.....	0	0	.....	.....	0.12	3.0	Clear	
New River, North Carolina	.....	.....	.....	.....	50	10.0	86	NW	.....	.....	1	0	Fog	.....	Calm	.....	.....	Fair	
New York, New York	29.74	755.4	29.92	760.0	32	0.0	69	NW	10	4.5	.....	2ck	Haze	NW	Calm	0.15	3.8	Fair	
Norfolk, Virginia	29.90	759.4	29.97	761.2	46	7.8	77	N	10	4.5	.....	2c	Fog	E	Calm	0	0	Fair	
North Platte, Nebraska	26.89	683.0	29.49	749.0	35	1.7	70	NW	21	9.4	.....	0	5s	.....	NW	0	0	Fair	
Olympia, Washington Ter.	30.24	768.1	30.28	769.1	38.0	3.3	96	S	1	0.4	.....	Haze	2s	.....	Calm	0	0	Fair	
Omaha, Nebraska	28.40	721.3	29.49	749.0	36	1.7	90	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.66	753.4	29.99	761.7	22	— 5.6	79	N	9	4.0	.....	.....	10s	.....	Calm	0.53	13.5	Cloudy	
Pembina, Dakota	28.69	728.7	29.56	750.8	20	— 6.7	100	NW	3	1.3	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Pensacola, Florida	29.68	760.2	29.96	761.0	62	16.7	94	SW	3	1.3	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	29.89	759.2	29.94	760.5	30	3.9	64	NW	14	6.3	.....	2ck	0	NW	.....	0.05	1.3	Fair	
Phœnix, Arizona	28.87	733.3	30.74	780.8	42	5.6	74	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.37	441.2	29.58	751.3	— 4	—20.0	65	W	44	19.7	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.12	739.6	29.94	760.5	52	11.1	86	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	30	— 1.1	68	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.17	740.9	30.00	762.0	37	2.8	71	NW	3	1.3	.....	.....	10s	.....	NW	0.08	2.0	Cloudy	
Port Huron, Michigan	29.28	743.7	29.97	761.2	27	— 2.8	88	NE	2	0.9	.....	.....	10s	.....	Calm	0 09	2.3	Cloudy	
Portland, Maine	29.57	751.1	29.62	752.3	20	— 6.7	85	N	24	10.7	.....	.....	10n	.....	Calm	0.37	24.6	Light snow.	
Portland, Oregon	30.24	768.1	30.31	769.9	42.5	5.8	91	Calm	0	0	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.82	650.4	30.18	766.6	29	— 1.7	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	58	14.4	76	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.90	759.4	30.28	769.1	40	4.4	73	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.68	753.9	29.90	759.4	64	17.8	80	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.33	745.0	29.98	761.5	25	— 3.9	87	NW	11	4.9	.....	.....	10s	.....	NW	0.54	13.7	Cloudy	
Roseburg, Oregon	29.77	756.1	30.36	771.1	44	6.7	92	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.16	766.1	30.24	768.1	41	5.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.18	741.1	29.76	755.9	38	3.3	81	S	17	7.6	.....	5ck	5s	W	W	0	0	Cloudy	
St. Paul, Minnesota	28.74	730.0	29.57	751.1	32	0.0	89	SE	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	36	2.2	45	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.18	741.1	29.77	756.1	55	12.8	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.04	763.0	30.11	764.8	49	9.4	85	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.29	744.0	29.98	761.5	36	2.2	90	SW	4	1.8	.....	.....	10ks	.....	W	0.43	10.9	Cloudy	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	34	1.1	70	NW	18	8.0	.....	5c	0	W	.....	0.02	0.5	Fair	
San Francisco, California	30.21	767.3	30.28	769.1	46	7.8	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	16	— 8.9	40	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.89	759.2	29.99	761.7	55	12.8	87	SW	2	0.9	.....	10ck	Sm'e	SW	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.51	749.5	29.72	754.9	65	18.3	84	S	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.94	760.5	29.98	761.5	55	12.8	87	W	4	1.8	.....	1k	Fog	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.38	644.6	29.44	747.8	37	2.8	45	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.08	738.6	29.75	755.6	46	4.4	82	SE	13	5.8	.....	5ck	2s	SW	SE	Inap.	Inap	Cloudy	
Springfield, Massachusetts	29.72	754.9	29.85	758.2	24	— 4.4	61	NW	13	5.8	.....	0	2s	.....	NW	0.58	13 5	Fair	
Stockton, Texas	26.91	683.5	29.91	759.7	54	12.2	16	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.67	753.6	29.73	755.1	28	— 2.2	100	NW	26	11.6	.....	.....	10s	.....	NW	0.55	14.0	Cloudy	
Toledo, Ohio	29.24	742.7	29.94	760.5	37	2.8	81	S	2	0.9	.....	.....	10s	.....	S	0.19	4.8	Cloudy	
Tucson, Arizona	27.61	701.3	30.16	766.1	42	5.6	58	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.58	751.3	29.83	757.7	65	18.3	85	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.25	615.9	29.73	755.1	72	22.2	72	SW	17	7.6	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Visalia, California	29.80	756.9	30.19	766.8	37.5	3.1	95	S	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Washington, D. C.	29.87	758.7	29 98	761.5	41	5.0	65	N	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	NW	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	29.87	758.7	29.95	760.7	51	10.6	86	SW	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	35	1.7	61	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	29.70	754.4	29.73	755.1	30	— 1.1	78	NW	28	12.5	.....	0	0	.....	.....	0.06	1.5	Clear	
Yankton, Dakota	28.36	720.3	29.64	752.8	39	3.9	81	NW	16	6.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Yuma, Arizona	29.90	759 4	30.04	763.0	54	12.2	43	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	29.93	760.2	29.98	761.5	68	20.0	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	James Gall.
Navassa, W. I.	30.14	765.5	30.15	765.8	72	22.2	82	Calm	0	0	.....	0	2cs	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.89	759.2	29.97	761.2	75	23.9	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.96	761.0	29.96	761.0	77	25.0	91	E	.....	.....	3	.....	10n	.....	.....	0.800	20.52	Raining	Francesco J. Cisneros.
Santiago de Cuba, W. I.	29.31	744.5	29.86	758.4	77	25.0	89	Calm	.....	.....	0	.....	8s	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	29.98	761.5	30.00	762.0	72	22.2	72	Calm	0	0	.....	0	0	.....	.....	0	0	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	29.85	758.2	29.91	759.7	—34.0	—36.7	.....	E	11	4.9	.....	3k	0	E	.....	0	0	Fair	J. Fortescue & W. Wood
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.96‡	761.0‡			62	16.7	88	NW	3	1.3			10		SW					Storming	
Navy Yard, Portsmouth, N.H.	30.09‡	764.3‡			24	— 4.4	74	NW	1	0.4			10							Snowing	
Alaska, Coquimbo, Chili	29.89‡	759.2‡			63	17.2	89	Calm			0		10							D. clouds	
Colorado, New York, N. Y.	29.90‡	759.4‡			30	— 1.1	100	WSW	3	1.3			1		W	1.5	38.			Clear	
Constitution, Fredericksted, Santa Cruz, W. I.	29.98‡	761.5‡			74	23.3	59	NE			2		7?		NE					Clear?	
Enterprise, Piraeus, Greece	30.14‡	765.5‡			36	2.2	71	NNW			4		10		NNW			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.98‡	761.5‡			47	8.3	62	NE	9.6	4.3			0			0	0			Clear.	
Independence, Mare I'd, Navy Yard, Cal.	30.24‡	768.1‡			45	7.2	84	Calm	0	0			0			0	0			Foggy	
Kearsarge, Key West, Fla.	30.03‡	762.7‡			72	22.2	80	NE			2		2		NE			Smooth		Fair	
Lackawana, N. 34° 00′, W. 151° 15′	30.33‡	770.4‡			63	17.2	89	SSE			3		10		SE			Long	SE;W	Cloudy	
Marion, S. 6° 17′, W. 34° 41′	29.90‡	759.4‡			81	27.2	78	ESE			4		5		ESE	Light	Light	Mod'ate	ESE	Fair	
Michigan, Erie, Pa.	29.98‡	761.5‡			31	— 0.6	48	NW			2		10		NW					Cloudy	
Monocacy, Shanghai, China	30.53‡	775.4‡			34	1.1	90	N			3		10							Raining	
New Hampshire, Port Royal, S. C.	29.96‡	761.0‡			57	13.9	94	SSW	4	1.8			8		SW	0	0			Cloudy	
Nipsic, La Guayra, Venezuela, S. A.	29.86‡	758.4‡			76	24.4	95	ENE			2		8		ENE			Long	ENE	Misty	
Onward, Callao, Peru	29.87‡	758.7‡			68	20.0	84	SE			2		5					Mod'ate smooth		Fair	
Palos, Tientsin, China	30.84‡	783.3‡			21	— 6.1	100	NNW			3		8							Cloudy	
Passaic, Washington, D. C.	29.97‡	761.2‡			44	6.7	76	NE			1		2							Clear	
Pensacola, Callao, Peru	29.85‡	758.2‡			69	20.6	95	Calm			0		2					Smooth		Misty	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.93‡	760.2‡			37	2.8	71	NW			3		2		N;W	0	0			Clear	
Quinnebaug, Leghorn, Italy	30.32‡	770.1‡			45	7.2	53	E			1		5		E					Fair	
Ranger, N. 34° 10′, W. 150° 12′	30.31‡	769.9‡			61	16.1	82	SE			1		10		SE			Smooth		Cloudy	
Richmond, Hong-Kong, China	30.16‡	766.1‡			70	21.1	85	NNE			1		8		E					Cloudy	
Rio Bravo, Brownsville, Texas	30.04‡	763.0‡			66	18.9	100	SSE	1	0.4			2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.00‡	762.0‡			41	5.0	74	NW			2		2		W	0.01	0.3			Clear	
Shenandoah, Montevideo, Uruguay	29.87‡	758.7‡			72	22.2	71	WNW			3		0					Smooth		Clear	
St. Louis, League Island, Pa.	29.96‡	761.0‡			36	2.2	80	NW	8	3.6			8		NW	0.04	1.0			Clearing	
Swatara, Boston Bay, Mass.	29.69‡	754.1‡			35	1.7	90	WNW			5		10		NW					Foggy	
Tennessee, Hampton Roads, Va.	30.00‡	762.0‡			47	8.3	70	NNE	5	2.2			0			0	0			Hazy.	
Trenton, Port Mahon, Minorca, Med	30.36‡	771.1‡						Var.			1		2			0	0	Long	E	Fair	
Tuscarora, La Union, S. Salvador	29.90‡	759.4‡			75	23.9	60	WSW			1		0					Smooth		Clear	
Wabash, Boston, Mass.	29.63‡	752.6‡			26	— 3.3	88	NW	18	8.0			0			0.62	15.7			Clear	
Wyoming, Toulon, France	30.27‡	768.8‡			47	8.3	62	ESE			0–1		5		SE			Smooth	SE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks.																			
Cape Henry, Va.		29.98‡	761.5‡				NNW			3		0		NNE	0	Smooth		Fair	W. E. Jago.
S. S. Circassian, N. 48° 14′, W. 45° 35′		29 93‡	760 2‡	34	1.1	79	NNE			4		8		NE		Mod'ate Confused		Fair	R. Carruthers.
S. S. Hibernian, F. Archer, N. 51° 59′, W. 24°48′		30 07‡	763.8‡	51.5	10.8		SE			6		10		SSE		Heavy	E	Cloudy	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air.																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 44° 49′, W. 53° 59′		30.29‡	768.6‡	32	0.0		E			3		6		ENE	0	Mod'ate	W	Fair	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undütsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 42° 35′, W. 50° 10′		30.05‡	763.3‡	38.0	3.3	91	NE			5		10		NE		Long	NNE	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 46′, W. 38° 58′		30.01‡	762.2‡				SE			1		5		S		Long	N	Cloudy?	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 34° 16′, W. 141° 32′	†	30.30‡	769.6‡	61	16.1	66	E			2		10		E		Smooth		Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, N. 30° 02′, E. 130° 19′	†	30.20‡	767.1‡	66	18.9		NW			5		8		N	0	Mod'ate	N*	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann. N. 39° 04′, W. 123° 54′ ...†		30.26‡	768.6‡	48	8.9		NW			3		5		NW		Small	NW	Fair	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 31° 20′, E. 131° 53′ ...†		30.30‡	769.6‡	54	12.2	45	NE			4	3c		WNW		0	Smooth		Blue sky	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J M Cavarly																			
S. S. Zalandia, R. C. Ghest. N. 22° 31′, W. 155° 38′		30 08‡	764.0‡				NE			5				NE		High	NE	Squally	
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson N. 49° 38′, W. 18° 58′		30.02‡	762.5‡	55	12.8		SE	37	16.5			10		SE	0	Long	SE	Gloomy	J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes.																			
S. S. Switzerland																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 41° 26′, W. 40° 53′		29.72‡	754.9‡	53	11.7		SSE			6		8		SE	1 hr	Mod'te	SE	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.
MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Adaie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 10′, E. 2° 45′		29.75‡	755.6‡	58	14.4		SW			2		10		WSW		Cross	NW-SW	Drizzling	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 18° 10′, W. 64° 50′ ...†		30.14‡	765 5‡	82	27.8		NNE			5		2		NE	0	Rough	N	Clear	W. Randall.
Iron Cross, W. Randall																			E. Lewis.
Barque Syringa, E. Lewis																			

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrowes, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Treamont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 22, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.06	763.4				SW			3		7			0	0	Very cloudy	
Nemours			30.08	764.0	57.6	14.2	78	N			3		4			0	0	Cloudy	Kesxuche.
Algiers			30.14	765.5	55.8	13.2	68	ENE			3		10			0	0	Covered	Tourillere.
La Calle			30.14	765.6	51.8	11.0	77	ENE			4		7			0.197	5.0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.30	769.5															Herbin.
Tebessa			30.10	764.5															
Geriville			30.22	767.6	46.9	8.3	59	N			1		8			0	0	Very cloudy	Watrin.
Laghouat								S			4		9			0	0	Covered	Brugniaux.
Biskra			30.25	768.3	45.7	7.6	60	W			1		9			0	0	Covered	Bertrand.
			30.24	768.2	52.9	11.6	83	NW			1		9			0	0	Covered	Chauvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.72	755.0	30.32	770.1	21.9	— 5.6	73	SW			2		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.38	746.3	30.20	767.1	22.1	— 5.5	87	WSW	1.6	0.7			10			0.012	0.3		Dr. Wierzbicki.
Eperies	29.24	742.8	30.21	767.4	11.5	—11.4	93	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.95	735.3	30.28	769.2	26.6	— 3.0	66	SSE			2		3			0	0		Andreas Rospini.
Hermannstadt	28.71	729.1	30.28	769.2	12.2	—11.0	86	WNW			1		6			0.047	1.20		Prof. A. Gottschling.
Kremsmünster	28.85	732.8	30.30	769.6	21.6	— 5.8	90	NW			1		5			0.102	2.6		Prof. C. Wagner.
Lemberg	29.01	736.8	30.07	763.8	19.8	— 6.8	97	NE			1		10			0.071	1.8		Dr. T. Stanecki.
Polk	30.21	767.4	30.33	770.4	36.3	2.4	57	WNW			1		6			0	0		I.R.Hydrographic Office
Szathmar	29.78	756.4	30.29	769.3	17.6	— 8.0	94	S			1		10			0.315	8.0	Snowing	Pet. Pancsics, S. J.
Szegedin	29.98	761.4	30.28	769.2	18.0	— 7.8	100	Calm			0		10			0	0		Karl Stancel.
Trieste	30.26	768.3	30.35	770.9	36.3	2.5	58	Calm			0		10			0	0		P. Busin.
Vienna	29.50	749.2	30.35	768.3	25.5	— 3.6	82	W			3		6			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	30.01	762.2	30.22	767.6	33.3	0.7	86	W			2		10		NW	0.063	1.6	Light snow	Royal Observatory.
Furnes	30.25	768.3	30.27	768.0	33.6	0.9	97	NW			2		10			0.063	1.6	Raining	M. E. de Cae.
Maeseyck	30.09	764.3	30.32	767.5	34.5	1.4	91	W			2		10			0.110	2.8	Foggy	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.32	770.1	30.42	772.7	38.5	3.6	.....	WNW	14	6.3	.....	.....	3	.....	.....	Blank	Blank	Blue sky.....	W. Boswell.
Ardrossan	30.45	773.4	30.47	773.9	39	3.9	.....	NW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	G.Carrick.
Armagh, (Observatory)	30.30	769.6	30.55	776.0	27.2	— 2.7	.....	S	1	0.4	.....	.....	10	.....	.....	.....	.....	Foggy	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.45	773.4	37.8	3.2	.....	WNW	17	7.6	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	29.86	758.4	30.39	771.9	37.3	2.9	.....	NNW	18	8.0	.....	.....	.....	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.98	761.5	30.38	771.6	38.9	3.8	81	N	.....	.....	3	.....	5	.....	.....	0.02	0.5	D. clouds.....	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.94	760.5	76	24.4	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.23	767.8	30.32	770.1	39.0	3.9	.....	N	.....	.....	1	.....	0	.....	.....	Blank	Blank	Blue sky.....	H. Todd.
Cardington	.....	.....	30.33	770.4	37.0	2.8	.....	NW	.....	.....	0–]	.....	5	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham (School M. E.)	30.21	767.3	30.35	770.9	33.2	0.7	.....	W	.....	.....	1	.....	10k	.....	.....	Blank	Blank	Overcast.....	W. Gibson, Sapper, R.E
Donaghadee	30.46	773.7	30.50	774.7	36	2.2	.....	NW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.26	768.6	30.30	769.6	35	1.7	.....	N	.....	.....	5	.....	7	.....	.....	.....	.....	Snowing.....	J. Costello.
Falmouth (Observatory)	30.22	767.6	30.46	773.7	37.8	3.2	.....	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.57	700.3	29.79	756.7	92.8	33.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.46	773.7	28	— 2.2	.....	N	.....	.....	1	.....	Fog	.....	.....	0	0	Blue sky	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	30.24	768.1	30.45	773.4	35.8	2.1	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	30.25	768.3	30.25	768.3	40	4.4	.....	NW	.....	.....	3	.....	4	.....	.....	Blank	Blank	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.16	766.1	30.35	770.9	35.5	1.9	.....	N	.....	.....	2	.....	9	.....	.....	.....	.....	Snowing.....	The Staff, for G.B.Airy.
Guernsey	30.18	766.6	30.41	772.4	36	2.2	.....	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Dr.S.E Hoskins, F.R.S.
Helston	30.60	777.2	30.72	780.3	40	4.4	.....	NE	.....	.....	2	.....	4k	.....	.....	0	0	Fair.....	M. P. Moyle.
Holyhead	30.40	772.1	30.48	774.2	37	2.8	.....	NNE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	30.13	765.3	30.44	773.2	38.0	3.3	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew (Observatory)	30.32	770.1	30.36	771.1	35.9	2.2	.....	NNW	13	5.8	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	30.10	764.5	30.37	771.4	38.8	3.8	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.12	765.0	30.20	767.1	53	11.7	.....	NW	.....	.....	2	2ck	.....	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.33	770.4	30.43	772.9	40	4.4	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau, Bahamas	.....	.....	29.98	761.5	70.2	21.2	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	30.19	766.8	30.38	771.6	41.0	5.0	.....	NNW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.85	758.2	30.40	772.1	36.8	2.7	.....	NW	.....	.....	2–3	.....	0	.....	.....	.....	.....	Misty.....	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.16	766.1	30.42	772.7	34	1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.36	771.1	30.43	772.9	36.8	2.7	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Misty.....	John Merrifield.
*Roche's Point	30.43	772.9	30.60	774.7	40	4.4	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Wm. Kennedy.
St. Ann's Head	30.30	769.6	30.47	773.9	37	2.8	.....	NNE	.....	.....	1	.....	6	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.41	772.4	38.2	3.4	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.08	764.0	30.14	765.5	30.6	— 0.8	.....	N	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	Serg't W. H. Lyne.
Sheffield	30.11	764.8	30.40	772.1	39.9	4.4	.....	NNW	.....	.....	1	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.41	772.4	30.44	773.2	37.9	3.3	71	Calm	.....	.....	0	.....	5	.....	.....	0	0	D. clouds.....	Rev. P. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.42	772.7	33.6	0.9	.....	S	2	0.9	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	28.1	— 2.2	.....	N	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.38	771.6	30.47	773.9	40	4.4	.....	NE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.44	773.2	30.46	773.7	39.7	4.3	.....	E	7	3.1	.....	.....	0	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.89	759.2	29.93	760.2	78.8	26.0	67	W	9.0	4.0	.....	0	6k;cs	.....	.....	0.21	5.3	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.56	649.2	.....	.....	94	34.4	.....	WNW	.....	.....	.....	2c	3c	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	28.72	678.7	.....	.....	86	30.0	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	29.92	760	61.7	16.5	.....	SE	.....	.....	Calm	.....	Slight	.....	.....	0	0	Bright.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.00	762.1	81.5	27.5	69	SE	19.0	8.5	.....	4	4	N	E	0.02	0.5	Squally.....	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	64.0	17.8	91	S	14	6.3	.....	.....	10	.....	.....	0	0	Threatening	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.48	774.2	42	5.6	.....	W	.....	.....	3	5	5	SW	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.28	769.1	.....	.....	.....	W	.....	.....	4	.....	10	.....	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 6 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palm as uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Tilly Bay, Patagonia	.....	.....	29.49‡	749.0‡	47.8	8.8	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Capt. A. J. Brown
City of Agra, S. 54° 40′ W. 108° 45′	.....	.....	29.86‡	758.4‡	44.2	6.8	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Foggy	Capt. Thos. Young.
City of Cashmere, S. 50° 00′, W. 50° 15′	.....	.....	29.61‡	752.1‡	47.4	8.6	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds...	Capt. W. M. Grieve.
Barque Commewyne, N. 37° 15′, W. 28° 50′	.....	.....	29.97‡	761.2‡	61.3	16.3	.....	NE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. Jas. Buchan.
Barque Dochra, S. 41° 57′ W. 122° 10′	.....	.....	30.02‡	762.5‡	62	16.7	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Capt. N. Spalding.
Barque Fedalma, N. 48° 50′, W. 21° 25′	.....	.....	30.08	764.0	62	16.7	.....	ESE	.....	.....	4	.....	10	.....	.....	4	E	Misty.....	Capt. H. L. Fox.
Bute Fylde, N. 45° 05′, W. 25° 20′	.....	.....	30.04	763.0	58	14.4	.....	ENE	.....	.....	1	.....	8	.....	.....	6	NNE	Misty.....	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.72‡	754.9‡	78	25.6	.....	SSE	.....	.....	3	.....	1	.....	.....	.....	.....	Misty.....	Capt. O. D. Coxwell.
S. S. Richmond, N. 21° 20′, W. 74° 15′	.....	.....	29.99	761.7	77	25.0	.....	E	.....	.....	5	.....	7	.....	.....	5	E	D. clouds.....	Capt. W. H. Stuart.
Barque Royal Alexandra, N. 0° 06′, E. 84° 19′	.....	.....	29.94‡	760.5‡	81.9	27.7	.....	W	.....	.....	3	.....	2	.....	.....	.....	S	Blue sky.....	Capt. W. P. Hughes.
S. S. Strathleven, N. 37° 15′, E. 10° 50′	.....	.....	30.21‡	767.3‡	51.5	0.8	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.15	664.2	29.87	758.7	63 0	17.2	78	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.97	761.5	30.02	762.5	31.5	— 0.3	100	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Snow-fog	
Faröe	30.04	763.1	30.07	763.6	35.6	2.0	98	N	.....	.....	2	.....	4	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.66	753.4	29.71	754.5	34.9	1.6	73	SW	.....	.....	7	.....	8	.....	.....	.....	.....	Raining	
Thorshavn (Faröe)	30.24	768.1	30.28	769.0	41.7	5.4	74	SW	.....	.....	2	.....	7	.....	.....	.....	.....	Raining	
Vestervig	30.01	762.2	30.12	765.0	33.4	0.8	80	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.86	758.4	30.41	772.4	35.6	2	93	NE	.....	.....	1	.....	10m	.....	NW	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.20	767.0	30.32	770.0	37.4	3	76	NW	.....	.....	2	.....	5	.....	SE	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.00	762.0	30.27	768.9	34.9	1.6	76	NW	.....	.....	3	.....	.....	.....	N	0	0	Light mist	Klein, Commandant.
Avignon, Normal School	30.22	767.6	30.30	769.6	37.4	3	60	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.77	756.2	30.37	771.4	24.6	— 4.1	97	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.04	763.1	30.32	770.2	35.6	2	85	NW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.46	748.3	30.47	773.9	23.4	— 4.8	.....	ENE	.....	.....	1	.....	10	.....	NE	0	0	Covered	A. Carré, Director.
Bordeaux	30.05	763.3	30.25	768.3	35.8	2.1	54	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.50	749.3	30.42	772.6	20.5	— 6.4	100	N	.....	.....	1	.....	10	N	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.90	759.5	30.49	774.4	27.7	— 2.4	96	ENE	.....	.....	1	.....	10m	.....	NE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.17	766.4	30.42	772.6	40.6	4.8	77	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.29	769.4	30.37	771.5	36.7	2.6	52	W	.....	.....	1	.....	10	.....	SW	0	0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.80	757.0	30.23	767.8	41.7	5.4	51	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	29.96	761.0	30.30	769.6	32.0	0.0	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	Jadot, Director
Chartres, Normal School	29.73	755.2	30.33	770.3	35.6	2	82	SW	.....	.....	1	.....	10	.....	S	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.89	733.7	30.32	770.1	32.4	0.2	65	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.39	746.4	30.31	769.8	26.6	— 3	.....	WNW	.....	.....	1	.....	10	WNW	WNW	.....	.....	Snowing	Dr. Coullet, Director.
Commune de Gréasque*	29.11	739.4	30.25	768.4	45.0	7.2	55	SW	.....	.....	2	.....	8	.....	S	0	0	.....	L. Kina, Director.
Grenoble, Normal School	29.54	750.4	30.39	771.8	19.0	— 7.2	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.1	30.35	770.9	33.6	0.9	74	NNE	.....	.....	1	.....	2	.....	NE	0	0	Slightly cl'd'y	Mouillot, Director.
Le Mans, Normal School	30.08	764.1	30.41	772.4	31.5	— 0.3	86	NW	.....	.....	2	.....	5	.....	NNE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.43	747.5	30.39	771.9	18.1	— 7.7	89	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	A. Baudry, Director
Lorient, Naval Observatory	30.31	769.9	30.42	772.7	36.7	2.6	72	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.72	754.8	30.39	771.8	23.7	— 4.6	81	E	.....	.....	1	.....	.....	.....	ESE	0	0	.....	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.95	760.7	30.23	767.8	48.6	9.2	57	SW	.....	.....	1	.....	9	.....	S	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.25	742.9	30.36	771.2	28.9	— 1.7	83	SSW	.....	.....	1	.....	n	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	24.91	632.7	30.23	767.7	40.5	4.7	26	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.20	767.1	30.24	768.0	49.6	9.8	52	SW	.....	.....	3	.....	1	W	SW	0	0	Clear	M. Boissière, Director.
Nismes, Normal School	30.12	765.0	30.34	770.5	35.4	1.9	67	N	.....	.....	4	c	.....	.....	NW	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	30.04	763.1	.....	.....	34.5	1.4	81	W	.....	.....	1	.....	10	.....	WNW	0	0	.....	Marié Davy, Director.
Perpignan	30.17	766.2	30.28	769.1	40.6	4.8	69	E	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.55	572.8	.....	.....	37.8	3.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.20	741.6	30.34	770.5	30.2	— 1	.....	N	.....	.....	6	.....	5	N	N	0	0	Cloudy	M. Tallieu
Puy de Dome (Summit) Obs	25.22	640.5	.....	.....	31.1	— 0.5	21	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.28	769.1	30.31	769 9	36.7	2.6	63	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.28	769.0	30.36	771.2	37.0	2.8	87	N	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.37	771.4	30.42	772.6	33.6	0.9	72	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.17	766.3	30.34	770.5	34.0	1.1	89	SSW	.....	.....	1	.....	10	.....	NW	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.13	740.0	30.24	768.2	45.5	7.5	18	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.54	750.2	30.26	768.7	39.4	4.1	55	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Juher Mercadier.
Tours	30.18	766.6	30.38	771.6	32.0	0.0	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Cousin-Marquet.
Versailles, Observatory	29.84	757.8	30.33	770.3	34.2	1.2	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	Lightly cov'd	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.57	751.0	30.33	770.4	27.5	— 2.5	98	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.62	777.7	30.65	778.4	25.9	— 3.4	87	NW	16.9	7.1	.....	.....	10m	.....	.....	0.043	1.1	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.34	745.2	30.21	767.2	20.5 — 6.4		85	SE			6		9ks			0.016	0.4	Snowing	Prof. Dr. Hoh.
Berlin	29.91	759.7	30.10	764.4	28.8 — 1.8		88	SW			1		7			0	0		Prof. Dr. Arndt.
Breslau	29.62	752.4	30.15	765.9	26.1 — 3.3		89	WSW			1		10			0.069	1.76	Snow-flakes	Royal University Obs'ty.
Carlsruhe	29.82	757.3	30.27	768.9	26.6 — 3.0		90	NW			3		10	SW				Snowing	Albert Senz.
Cassel	29.56	750.8	30.17	766.3	22.6 — 5.2		88	WNW			5		10			0.038	0.96	Snowing	Dr. H. Mühl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.94	760.5	30.33	770.4	20.3 — 6.5		74	SSW			0		10			Inap.	Inap.		Physical Society.
Friedrichshafen	28.80	731.4	30.35	770.8	20.1 — 6.6		89	N			3		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	29.98	761.4	30.05	763.2	34.5 1.4		100	WSW			1		10			0.035	0.9	Dense fog	Dr. Reinhold Kleeman.
Kiel	30.02	762.6	30.04	763.0	36.4 1.9		96	WSW			1		10			0.040	1.10		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.02	762.4	30.11	764.7	17.4 — 8.1		82	SE			2		10			0.008	0.2	Snowing	Prof. E. Luther.
Köslin			30.00	763.4	26.6 — 3.0			SW			2		4			0	0		H. Müller.
Leipsic Observatory	29.72	754.9	30.17	766.2	27.3 — 2.6		87	SW			3		10					Light snow	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.87	758.6	30.10	764.4	30.9 — 0.6		100	SSW			4		10ks			0.067	1.7	Snowing	Dr. Assmann.
Memel	30.04	762.9	30.08	764.1	9.4 —12.5		100	SE			3–4		10n					Snowing	Reinbrecht & Issermann.
Munich (München)	28.36	720.4	30.24	768.0	24.4 — 4.2		76	Calm			0		10	W		0.004	0.1		Dr. C. Lang.
Neufahrwasser	30.07	763.7	30.08	764.1	29.1 — 1.6		80	WNW			2		9			0.004	0.1		A. Lothes.
Neustadt (Palatinate)	29.68	753.8	30.21	767.3	28.8 — 1.8			W			2		10			0.098	2.5	Snowing	Reallehrer Dicknether.
Posen	29.86	758.4	30.17	766.2	26.1 — 3.3		87	W			4		10			0.008	0.2		Prof. Dr. Magener.
Strassburg (in Alsace)	29.74	755.5	30.34	770.6	25.0 — 3.9		89	SW			3		10	NW		0	0	Snowing	Imp. University Observatory.
Stuttgart	29.31	744.4	30.31	769.8	27.9 — 2.3		49	SW					10			0.035	0.9		Prof. Dr. Schoder.
Thorn	29.98	761.6	30.17	766.4	26.6 — 3.0		87	NW			2		2	N		0.212	5.30		Dr. Cunerth.
Weissenburg (Bavaria)	28.71	729.3	30.30	769.7	23 7 — 4.6		82	NW	0.2	0.1		9c		NW		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.02	762.4	30.04	763.0	31.6 — 0.2		100	S		3			10			0.126	3.2	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.74	755.3	30.15	765.7	41.5	5.3		NE			1.0		5					¼ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.1	30.02	762.4	74.4	23.6	54	NW	15	6.7			2			0	0	D. clouds	
Deesa	29.58	751.3	30.07	763.7	71.7	22.1	21	N	8.9	4.0			0			0	0	Misty	
Bombay	29.94	760.5	29.98	761.5	75.9	24.4	73	NNW	23	10.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.09	713.6	29.96	760.8	78.8	26.0	23	WNW	19	8.5			2	WSW		0	0	D. clouds	
Belgaum	27.40	696.0	29.93	760.3	79.3	26.3	48	NW	6	2.7			7	SW	SW	0	0	D. clouds	
Lahore	29.24	742.6	30.02	762.4	59.6	15.3	34	NW	1.2	0.5			0			0	0	Blue sky	
Roorkee	29.06	738.0	30.01	762.2	55.2	12.9	80	NE	2.5	1.1			9			0.03	0.8	D. clouds	
Agra	29.40	746.8	29.98	761.6	69.7	20.9	44	SW	1.7	0.8			8		E	0	0		
Nagpur	28.88	733.6	29.93	760.2	78.7	25.9	48	S	3.3	1.5			5	SW		0	0	D. clouds	
Jubbulpore	28.55	725.1	29.93	760.2	75.0	23.9	43	E	2.1	0.9			0			0	0	Blue sky	
Lucknow	29.58	751.3	29.97	761.2	68.3	20.2	24	Calm	0.2	0.1			0			0	0	Blue sky	
Allahabad	29.65	753.1	29.98	761.4	62.9	17.2	63	Calm	0.9	0.4			0			0	0	Blue sky	
Patna	29.83	757.8	30.02	762.6	68.0	20.0	44	Calm	1.0	0.4			2	W	W	0	0		
Hazaribagh	27.93	709.3	29.99	761.8	66.3	19.1	32	NW	7.3	3.3			0			0	0	Blue sky	
Cuttack	29.90	759.5	29.99	761.6	77.7	25.4	63	WSW	0.5	0.2			2			0	0	D. clouds	
Calcutta (Alipore)	29.98	761.6	30.01	762.1	69.7	20.9	63	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.57	751.0	29.97	761.3	64.7	18.2	68	W	2.8	1.2			0			0	0	Blue sky	
Chittagong	29.93	760.3	30.03	762.6	70.3	21.3	72	NW	3.3	1.5			0			0	0	Misty	
Sibsagar	29.67	753.6	30.02	762.6	60.9	16.1	94	WSW	1.6	0.7			8	W	W	0.25	6.4	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.89	759.2	30.33	770.3	29.5	— 1.4	78	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.78	756.3	30.33	770.3	25.2	— 3.8	89	E	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.22	767.6	30.34	770.6	30.0	— 1.1	67	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.36	745.8	30.30	769.7	26.6	— 3.0	70	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.07	763.7	30.27	768.9	44.6	7.0	51	SE	6.9	3.1	.....	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.28	718.3	30.31	769.8	20.7	— 6.3	74	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.27	768.9	30.32	770 2	34.2	1.2	78	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.06	763.4	30.33	770.4	32.0	0.0	63	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.21	767.4	30.30	769.7	36.1	2.3	52	E	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.10	764.5	30.28	769.1	40.8	4.9	30	E	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.94	760.5	30.21	767.2	37.0	2.8	61	NW	15.4	6.9	.....	.....	8	N	.....	0.039	1.0	.....	Prof. C. De Giorgi
Cosenza	29.31	744.5	30.32	770 1	35.2	1.8	84	SE	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.04	763.0	30.24	768.0	48.4	9.1	57	NE	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.01	762.2	30.26	768.7	46.9	8.3	67	ENE	7.4	3.3	.....	.....	9	NW	.....	0.020	0.5	.....	Prof. G. Cincciatore.
Syracuse	30.16	766.1	30.21	767.2	47.8	8.8	60	E	3.8	1.7	.....	.....	3	WNW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.73	755.1	30.28	769.1	39.7	4.3	44	NE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.30	769.6	30.32	770.1	36.2	2.3	69	NNE	9.5	4.2	.....	ck	1cks	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.25	768.3	43.6	6.4	81	NNE	0.8	0.4	.....	.....	8cs;8	.....	.....	0.005	0.13	Foggy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.08	764.0	30.15	765.8	35.0	1.7	49	NNE	13.1	5.9	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.25	768.3	30.31	769.9	34.6	1.4	75	N	0.7	0.3	.....	.....	10s	.....	.....	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	24.93	633.2	30.11	764.8	41.0	5.0	57	Calm	.....	.....	0	2c	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.32	617.8	30.07	763.8	52.5	11.4	80	NW	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.60	751.8	29.86	758.5	69.9	17.7	88	NE	.....	.....	1	2cs	0	.....	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	22.97	583.3	30.00	763.4	46.4	8.0	66	Calm	0	0	.....	7c	0	.....	.....	0	0	Pleasant	The Staff
Morelia	24.00	609.5	.....	.....	55.2	12.9	52	W	.....	.....	5	5c	2k	S	SW	0	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	23.81	604.7	29.90	759.5	46.0	7.8	58	NW	.....	.....	1	1c	0	SW	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.33	592.6	30.26	768.6	41.4	5.2	52	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.06	611.1	30.13	765.4	47.7	8.7	64	NW	.....	.....	2	3	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.80	756.9	29.81	757.2	66.2	19.0	95	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.84	757.8	29.86	758.5	69.8	21.0	90	NW	2.2	1.0	.....	1ck	6k	.....	.....	0	0	Very foggy	Prof. J. Rossell
Zacatecas	22.53	572.2	30.23	767.8	50.4	10.2	56	Calm	.....	.....	0	2cs	0	.....	.....	0	0	Clear	J. C. Castrillon

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.23	767.7	30.23	767.7	34.2	1.2	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.04	763.0	30.10	764.4	35.8	2.1	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.118	3.0	.....	
Helder	30.11	764.9	30.11	764.9	37.8	3.2	.....	NW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	30.19	766.8	30.19	766.8	35.2	1.8	87	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.12	765.0	30.17	766.2	34.7	1.5	87	WSW	.....	.....	2	.....	10	.....	.....	0.071	1.8	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.17	766.3	30.23	767.7	29.1	— 1.6	84	NNW	6.5	2.9	.....	.....	0	.....	.....	6	0	.....	
Brönö	30.17	766.2	30.21	767.2	30.9	— 0.6	92	Calm	0	0	.....	.....	8	.....	.....	0.031	0.8	.....	
Christiana	30.02	762.6	30.18	766.5	32.9	.5	51	NNW	7	3	.....	.....	6	.....	.....	0	0	.....	
Tromsö	29.92	760.0	29.97	761.1	27.9	— 2.3	77	SW	9	4	.....	.....	10	.....	.....	0.063	1.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.13	765.3	51.4	10.8	61	ENE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.74	755.5	29.84	757.8	62.6	17.0	76	WSW	6.3	2.8	.....	.....	8	.....	.....	0.484	12.3	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.72	755.0	30.09	764.2	55.0	12.8	61	E	18.1	8.1	.....	.....	6	E	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.83	757.7	29.90	759.5	61.5	16.4	79	NE	8.7	3.9	.....	.....	3	.....	.....	0.075	1.9	Light rain	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. E. C. da Silva Costa, Bulama, Bissago Islands, Africa	.....	.....	.....	.....	81.7	27.6	.....	ESE	.....	.....	1	.....	3	.....	SE	1	.....	D. clouds	T. Pereira, 2nd Lieut.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea	.....	.....	29.90	759.5	72.5	22.5	.....	WSW	.....	.....	5	.....	4	.....	W	2	NNW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.24	768.0	57.2	14.0	.....	N	.....	.....	2	.....	10	.....	N	1	.....	Foggy	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.90	759.5	29.92	760.0	—14.8	—26.0	86	ESE	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.23	767.8	30.15	765.7	14.7	— 9.6	84	NNW	7	3	.....	10cp	.....	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	30.30	769.7	29.92	785.3	—31.5	—35.3	88	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.84	757.9	30.12	765.0	—12.5	—24.7	91	NNW	2	1	.....	.....	8km	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.43	747.5	30.53	775.4	— 6.7	—21.5	63	SE	13	6	.....	.....	10	.....	.....	.....	.....	Foggy	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.66	753.4	29.96	760.9	5.2	—14.9	89	S	20	9	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.33	745.0	30.03	762.8	7.5	—13.6	83	S	2	1	.....	c	4cs,ks,n	.....	.....	.....	.....	Light haze	Physical Cabinet.
Krotkowo*	29.58	751.3	30.10	764.6	5.5	—14.7	75	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Faijanow.
Lugan	29.95	760.7	30.18	766.5	1.8	—16.8	75	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.24	742.7	29.85	758.3	— 3.3	—19.6	75	E	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.15	714.9	30.85	783.7	—21.5	—29.7	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.14	765.5	30.21	767.3	4.3	—15.4	90	ESE	4	2	.....	.....	7cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.04	763.0	30.30	769.5	14.4	— 9.8	86	NNW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.58	776.7	30.72	780.3	15.3	— 9.3	41	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.01	762.2	30.02	762.6	— 9.6	—23.1	67	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.69	728.7	30.37	771.3	28.4	— 2.0	100	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.52	724.4	29.98	761.4	41.7	5.4	67	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.68	753.9	30.14	765.5	18.9	— 7.3	81	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Light snow	Astronomical Obs.
Wilna	29.68	753.8	30.14	765.6	3.4	—15.9	77	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.57	776.4	30.91	785.0	—12.1	—24.5	80	NW	2	1	.....	.....	10	.....	.....	.....	.....	Light clouds	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,166 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.15	765.8	30.26	768.6	45.5	7.5	62	NW	3.2	1.44	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.14	765.5	30.20	767.0	52.5	11.4	59	SE	3.6	1.63	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	690.8	.....	.....	36.0	2.2	91	NE	6.2	2.77	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martiny Perez.
Madrid, Royal Observatory	27.95	709.9	30.09	764.3	45.1	7.3	63	NE	9.7	4.34	.....	0	10	.....	.....	0	0	Covered.	The Staff.
Murcia, Met. Obs'y	30.08	764.0	30.23	767.9	49.8	9.9	76	SE	1.3	0.58	.....	5	5	WSW	.....	0.174	4.42	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.8	29.27	743.5	59.2	15.1	57	SE	6.3	2.8	.....	.....	8	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.86	758.5	29.93	760.2	66.5	19.2	83	Calm	0	0	.....	0	2ks	.....	SSW	0	0	Hazy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.93	760.3	29.98	761.6	80.5	26.9	68	E	5.2	2.8	.....	.....	0	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.4	30.08	763.9	59.5	15.3	63	E	25.3	11.3	.....	2	5	NE	SE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	73.4	23.0	83	SE	2.2	1.00	.....	7kn	5kn	SE	SE	0	0	Cloudy	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.06	763.4	30.10	764.4	7.9	—13.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....
Umea	30.12	765.1	30.17	766.4	20.1	— 6.6	79	N	.....	.....	4	.....	0	.....	.....	0	0	.....	.....
Hernosand	30.07	763.8	30.12	765.1	25.5	— 3.6	60	N	.....	.....	4	.....	0	.....	.....	0	0	.....	.....
Stockholm	29.82	757.5	30.00	762.0	28.4	— 2.0	88	NNW	.....	.....	4	.....	9	.....	.....	0.08	0.2	.....	.....
Wisby	29.87	758.6	29.93	760.1	28.4	— 2.0	88	WNW	.....	.....	4	.....	10	.....	.....	0.004	0.1	Snowing	.....
Sub-Series.																			
Upsala	29.88	759.0	29.97	761.2	28.4	— 2.0	90	N	18.3	8.2	.....	.....	10	.....	N	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.84	732.4	30.36	771.1	23.4	— 4.8	80	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.60	726.5	30.38	771.7	15.8	— 9.0	93	W	.....	.....	2	.....	4	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +4.9 mm.; Thermometer, —0.5 Cent. Relative Humidity, +2 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.21	767.2	80.2	— 1.0	100	N	4	2.0	.....	.....	8	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.08	764.1	32.2	0.1	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.02	762.5	55.0	12.8	89	SE	.....	.....	1	.....	10n	.....	W	0.28	7.1	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.02	762.5	30.03	762.7	12.6	—10.8	.....	NW	3	1.3	.....	.....	.....	.....	.....	0.90	22.9	Clear	Hon. J. Ferguson.
Chatham, N. B	30.01	762.2	30.08	764.0	6.3	—14.3	88	W	5	2.2	.....	0	0	.....	.....	0.82	20.8	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	10.4	—12.0	92	NW	8	3.6	.....	0	0	.....	.....	0.23	5.8	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.75	755.6	29.97	761.2	6.8	—14.0	98	E	.....	.....	4	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.89	759.2	30.03	764.0	5.5	—14.7	.....	W	1	0.4	.....	0	0	.....	.....	1.55	39.4	Clear	H. A. Johnson.
Father Point, Quebec	30.11	764.8	30.13	765.3	— 7.7	—22.1	58	SW	10.0	4.5	.....	0	0	.....	.....	0.25	6.3	Clear	J. McWilliams.
Fredericton, N. B	30.08	764.0	30.16	766.1	2.4	—16.4	97	N	2	0.9	.....	0	0	.....	.....	0.30	7.6	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.06	738.1	30.00	762.0	—11.4	—24.1	100	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.31	719.1	29.43	747.5	34	1.1	.....	SE	.....	.....	2	.....	10n	.....	.....	0.32	8.1	Cloudy	James Grant.
Halifax, N. S	29.98	761.5	30.12	765.0	12.4	—10.9	92	W	6	2.7	.....	0	0	.....	.....	0.59	15.0	Clear	A. Allison.
Hamilton, Ontario	29.19	741.4	29.57	751.1	32.1	0.1	94	E	.....	.....	1	.....	10n	.....	.....	0.14	3.6	Light rain	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.44	747.8	29.79	756.7	20.5	— 6.4	86	E	7	3.1	.....	10cs	0	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.77	756.1	29.81	757.2	24.5	— 4.2	82	W	10	4.5	.....	5k	0	W	.....	0.55	14.0	Fair	C. H. Rigby.
Montreal, Quebec	29.83	757.7	30.05	763.3	0.0	—17.8	94	SE	8	3.6	.....	3c	2s	SW	.....	0	0	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	29.86	758.4	29.90	759.4	2.2	—16.6	80	S	.....	.....	1	.....	10	.....	.....	0	0	Cloudy	J. R. Nesson.
Norwood	28.97	735.8	29.71	754.6	17.7	— 7.9	97	E	4	1.8	.....	9ks	1s	SE	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.84	732.5	29.56	750.8	23.0	— 5.0	93	E	29	13.0	.....	10n	.....	.....	E	0.03	0.8	Heavy snow	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	28.78	731.0	29.49	749.0	36.0	2.2	100	E	10	4.5	.....	.....	10n	.....	.....	0.26	6.6	Light rain	H. Morgan.
Port Stanley, Ontario	28.78	731.0	29.43	747.5	37.4	3.0	89	E	28	12.6	.....	.....	10n	.....	.....	0.21	5.3	Light rain	M. Payne.
Quebec, Quebec	28.84	732.5	30.10	766.8	6.5	—14.2	88	NE	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.33	745.0	29.83	757.7	10.1	—12.2	87	E	10	4.5	.....	.....	10n	.....	.....	.....	.....	Light snow	W. H. McIntyre.
St. John, N. B	29.98	761.5	30.16	766.1	5	—15.0	100	NW	5	2.2	.....	0	0	.....	.....	0.36	9.1	Clear	G. Murdock, C. E.
Saugeen, Ontario	28.69	728.7	29.42	747.3	33.0	0.6	90	SE	32	14.3	.....	.....	10s	.....	.....	0.06	1.5	Sleeting	Miss K. Stewart.
Stratford, Ontario	28.12	714.2	29.42	747.3	33.0	0.6	95	SE	15.0	6.7	.....	.....	10s	.....	.....	0.13	3.3	Heavy rain	C. J. MacGregor, M. A
Sydney, C. B	29.00	764.1	29.73	755.1	20.2	— 6.6	91	W	23	10.3	.....	0	5n	.....	.....	0.50	12.7	Squally	T. C. Hill, C. E.
Toronto, Ontario	29.20	741.7	29.59	751.6	33.7	0.9	95	E	21	9.4	.....	.....	10n	.....	.....	0.06	1.5	Cloudy	Magnetic Observatory
Windsor, N. S	29.08	761.5	30.08	764.0	11.5	—11.4	90	NW	7	3.1	.....	2cs	1ks	.....	.....	0	0	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.36	720.3	29.44	747.8	33.6	0.9	96	E	18	8.0	.....	.....	10n	.....	E	Inap.	Inap.	Raining	Professor Wolverton.
Yarmouth, N. S	30.08	764.0	30.15	765.8	19.0	— 7.2	88	NW	18	8.0	.....	.....	10s	.....	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.49	749.0	29.75	755.6	31	— 0.6	.....	S	.....	.....	.....	.....	10	.....	.....	0.05	1.3	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.56	750.8	24.8	— 4.0	.....	W	.....	.....	3	.....	n	.....	.....	.....	.....	Cloudy	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.81	757.2	30.07	763.8	10	—12.2	79	NW	1	0.4		0	Haze		Calm	0	0	Clear.	
Alpena, Michigan	28.75	730.2	29.40	746.7	30	— 1.1	89	E	14	6.3			10n		Calm	0.10	2.5	Light snow.	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.52	724.4	29.63	752.6	55	12.8	93	SW	9	4.0			10n		Calm			Light rain...	
Atlantic City, New Jersey	29.07	761.2	29.99	761.7	42	5.6	91	E	8	3.6		10k	0	S		0	0	Cloudy	
Augusta, Georgia	29.60	751.8	29.79	756.7	58	14.4	94	S	4	1.8			10s		SW	0.51	13.0	Cloudy	
Baltimore, Maryland	29.87	758.7	29.92	760.0	40	4.4	82	E	6	2.7			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	29.95	760.7	29.98	761 5	41	5.0	82	E	23	10.3		2c	8s	Calm	Calm	0	0	Cloudy	
Bismarck, Dakota	28.06	712.7	29.91	759.7	6	—14.4	100	NW	2	0.9		0	0			0	0	Clear.	
Boerne, Texas	28.55	725.2	29.89	759.2	46	7.8	40	N			2	5k	0	N		0	0	Fair..	
Boise City, Idaho	27.33	694.2	30.29	769.4	37	2.8	81	SE	1	0.4		0	8s		W	0.02	0.5	Fair..	
Boston, Massachusetts	30.00	762.0	30.17	766.3	21	— 6.1	57	Calm	0	0		2cs	2s	Calm	Calm	0	0	Fair..	
Brackettville, Texas	28.86	733.0	29.94	760.5	45	7.2	61	E	2	0.9		0	2s		Calm	0	0	Fair..	
Breckenridge, Minnesota	28.92	734.6	30.03	762.7	0	—17.8	100	Calm	0	0		0	0			0	0	Clear	
Brownsville, Texas	29.81	757.2	29.85	758.2	63	17.2	83	N	2	0.9		2ck	0	Calm		0	0	Clear	
Buffalo, New York	28.81	731.8	29.50	749.3	41	5.0	65	SE	7	3.1			10s		SW	0.14	3.6	Threatening	
Burkes, Arizona																			
Burlington, Vermont	29.73	755.1	30.05	763.3	11	—11.7	80	S	5	2.2		5ck	8s	W	S	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.36	745.7	29.75	755.6	41	5.0	74	SW	1	0.4		0	2s		SW	0.14	3.6	Fair..	
Campo, California																			
Cape Hatteras, N. Carolina	29.83	757 7	29.83	757.7	59	15.0	88	SE	13	5.8			10s		SE	0.34	8.6	Threatening	
Cape Henry, Virginia	29.81	757.2	29.82	757.7	52	11.1	79	SE	9	4.0			10ks		S	0	0	Cloudy	
Cape Lookout, N. Carolina	29.79	756.7	29.81	757.2	58	14.4	88	W	7	3.1			10s		Calm	0.26	6.6	Threatening	
Cape May, New Jersey	29.91	759.7	29.94	760.5	44	6.7	83	E	14	6.3			10ks		Calm	0	0	Cloudy	
Castroville, Texas	29.20	741.7	29.92	760.0	51	10.6	34	N	6	2.7		10c	0	Calm		0	0	Cloudy	
Cedar Keys, Florida	29.82	757.4	29.84	757.9	65	18.3	89	SW	12	5.4		0	0			0.78	19.8	Clear.	
Charleston, South Carolina	29.74	755.4	29.80	756.9	59	15.0	88	SW	4	1.8		0	8s		SW	0.04	1.0	Cloudy	
Charlotte, North Carolina	29.87	733.3	29.66	753.4	55	12.8	93	S	7	3.1			10s;fg		S;Calm	0.05	1.3	Cloudy	
Chattanooga, Tennessee	28.84	732.5	29.62	752.3	52	11.1	86	SW	5	2.2			10s		SW	0.77	19.6	Cloudy	
Cheyenne, Wyoming	23.89	606.8	29.83	757.7	16	— 8.9	49	NW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	28.66	728.0	29.33	745.0	37	2.8	81	SW	10	4.5			10s		Calm	0.43	10.9	Cloudy	
Cincinnati, Ohio	28.89	733.8	29.53	750.0	45	7.2	68	W	11	4.9			10ks		W	0.46	11.7	Cloudy	
Cleveland, Ohio	28.63	727.2	29.33	745.0	46	7.8	77	SE	14	6.3			10s		S	0.07	1.8	Cloudy	
Coleman City, Texas	28.24	717.3	29.97	761.2	36	2.2	61	N	12	5.4		0	0			0	0	Clear.	
Columbus, Ohio	28.59	726.2	29.40	746.7	48	8.9	85	W	10	4.5			10n		W	0.09	2.3	Light rain...	
Concho, Texas	28.13	714.5	29.88	758.9	33	0.6	70	N			1	0	0			0	0	Clear.	
Corsicana, Texas	29.56	750.8	30.04	763.0	43	6.1	36	N	12	5.4		0	0			0	0	Clear.	
Davenport, Iowa	28.84	732.5	29.48	748.8	33	0.6	89	NW	17	7.6			10n		Calm	0.12	3.0	Heavy snow	
Dayton, Washington T'y					42	5.6	83	SW			1		10s		Calm	0.11	2.8	Cloudy	
Deadwood, Dakota	25.20	640.1			24	— 4.4	48	Calm	0	0		0	0			0.03	0.8	Clear.	
Decatur, Texas	28.93	734.8	30.14	765.5	40	4.4	65	NW	8	3.6		0	0			0	0	Clear.	
Denison, Texas	29.20	741.7	30.02	762.5	37	2.8	53	NW	8	3.6		0	0			0	0	Clear.	
Denver, Colorado	24.68	626.9	29.90	759.4	21	— 6.1	57	E	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	28.84	732.5	29.74	755.4	28	— 2.2	88	N	12	5.4			10s		Calm	0.07	1.8	Cloudy	
Detroit, Michigan	28.65	727.7	29.30	744.2	41	5.0	100	SW	8	3.6			10n		Calm	0.50	12.7	Light rain...	
Dodge City, Kansas	27.41	696.2	29.85	758.2	20	— 6.7	56	NW	14	6.3		0	0			0	0	Clear	
Dubuque, Iowa	28.80	731.5	29.50	749.3	32	0.0	79	NW	12	5.4			10n		Calm	0.16	4.1	Light snow.	
Duluth, Minnesota	29.05	738.9	29.74	755.4	28	— 2.2	88	N	8	3.6			10s		N	0.03	0.8	Cloudy	
Eagle Pass, Texas	29.33	745.0	30.07	763.8	52	11.1	60	Calm	0	0		0	0			0	0	Clear.	
Eastport, Maine	30.59	764.3	30.17	766.3	6	—14.4	64	NW	14	6.3		0	0			0.20	5.1	Clear.	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	28.67	728.2	29.37	746.0	42	5.6	66	SE	27	12.1			10s		SW	0.07	1.8	Cloudy	
Escanaba, Michigan	28.86	733.0	29.53	750.0	24	— 4.4	74	N	23	10.3			10s		N	0.56	14.2	Cloudy	
Florence, Arizona	28.47	723.1	30.07	763.8	31	— 0.6	89	Calm	0	0		0	0			0	0	Clear.	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.77	705.4	29.76	755.9	5	—15.0	87	Calm	0	0		0	0			0	0	Clear	
Fort Custer, Montana	26.68	677.7			24	— 4.4	74	S	4	1.8		0	0			0	0	Clear.	
Fort Davis, Texas	25.17	639.3	30.13	765.3	31	— 0.6	79	NE	7	3.1		0	0			0	0	Clear.	
Fort Gibson, Indian Ter	29.43	747.5	29.99	761.7	32	0.0	59	NW	8	3.6		0	0			0	0	Clear.	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	35	1.7	29	NW	7	3.1		0	0			0	0	Clear.	
Fort Griffin, Texas	28.78	731.0	30.09	764.3	39	3.9	38	N	4	1.8		0	0			0	0	Clear.	
Fort Keogh, Montana	27.12	688.8			18	— 7.8	52	Calm	0	0		0	0			0	0	Clear.	
Fort McKavett, Texas	27.76	705.1	29.75	755.6	37	2.8	45	NE	10	4.5		0	0			0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.81	731.8	29.96	761.0	35	1.7	36	N	4	1.8		0	0			0	0	Clear.	
Fort Stevenson, Dakota	28.02	711.7			— 4	—20.0	82	W	2	0.9		0	0			0	0	Clear.	
Fort Verde, Arizona					27	— 2.8	76	W			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.18	715.8	29.77	756.1	43	6.1	59	N	3	1.3		0	0			0	0	Clear.	
Galveston, Texas	29.89	759.2	29.93	760.2	57	13.9	31	N	32	14 3		2cs	2s	NW	Calm	0	0	Fair..	
Graham, Texas	28.99	736.3	30.08	764.0	36	2.2	61	N	4	1.8		0	0			0	0	Clear.	
Grand Haven, Michigan	28.72	729.5	29.35	745.5	39	3.9	91	S	12	5.4			10s		Calm	0.15	3.8	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.12	739.6	30.10	764.5	33	0.6	61	NW	6	2.7		0	0			0	0	Clear.	
Indianapolis, Indiana	28.71	729.2	29.47	748.5	39	3.9	64	W	8	3 6			10s		W	0.09	2.3	Cloudy	
Indianola, Texas	29.93	760.2	29.95	760.7	55	12.8	60	N	32	14.3		1c	0	N		0	0	Clear.	
Jacksboro, Texas	28.88	733.5	30.05	763.3	37	2.8	71	N	4	1.8		0	0			0	0	Clear.	
Jacksonville, Florida	29.82	757.4	29.85	758.2	61	16.1	82	S	8	3.6		2cs	0	Calm		0.07	1.8	Clear	
Keokuk, Iowa	28.96	735 6	29.69	751.6	30	— 1.1	89	NW	16	7.2			10n		NW	0.01	0.3	Light snow.	
Key West, Florida	29.90	759.4	29.93	760.2	72	22.2	71	S	12	5.4		0	0			0.02	0.5	Clear.	
Kittyhawk, North Carolina	29.82	757.4	29.84	757.9	52	11.1	93	E	18	8.0		5cs	5ks	Calm	SW	0	0	Cloudy	
Knoxville, Tennessee	28.63	727.2	29.60	751.8	51	10.6	86	SW	6	2.7			10ks		SW	0.16	4.1	Cloudy	
La Crosse, Wisconsin	28.81	731.8	29.56	750.8	32	0.0	79	N	12	5.4			10n		Calm	0.29	7.4	Light snow.	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	33	0.6	32	N	1	0.4		0	0			0	0	Clear.	
Laredo, Texas	29.82	757.4	30.17	766.3	50	10.0	79	N	8	3.6		0	5s		N	0	0	Fair..	
Leavenworth, Kansas	28.98	736.1	29.85	758.2	27	— 2.8	76	NW	17	7.6			10s			Inap.	Inap.	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.51	749.5	29.87	758.7	44	6.7	60	NW	15	6.7		0	0			0	0	Clear.	
Los Angeles, California	29.66	753.4	30.01	762.2	47.0	8.3	70	NE	5	2.2		0	0			0	0	Clear.	
Louisville, Kentucky	29.04	737.6	29.59	751.6	43	6.1	75	W	14	6.3		0	1s		Calm	1.22	31.0	Clear.	
Lynchburg, Virginia	29.12	739.6	29.81	757.2	43	6.1	91	NE	4	1.8			10n		NE	0.16	4.1	Light rain...	
Madison, Wisconsin	28.37	720.6	29.35	745 5	29	— 1.7	89	N	18	8.0			10n		Calm	1.01	25.7	Light snow..	
Marquette, Michigan	28.91	734.3	29.62	752.3	30	— 1.1	89	NE	8	3.6			10s		N	0.43	10.9	Cloudy	
Mason, Texas	28.39	721.1	30.19	766.8	42	5.6	94	NE	4	1.8		0	0			0	0	Clear.	
Memphis, Tennessee	29.47	748.5	29.82	757.4	42	5.6	65	W	4	1.8		0	0			0.22	5.6	Clear.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.54	724.9	29.25	742.9	34	1.1	90	N	18	8.0	.....	.....	10n	.....	Calm	0.46	11.7	Light snow.	
Mobile, Alabama	29.70	754.4	29.74	755.4	59	15.0	94	NW	6	2.7	.....	Haze	8s	.....	W	0.77	19.6	Fair..	
Montgomery, Alabama	29.49	749.0	29.72	754.9	58	14.4	93	SW	2	0.9	.....	.....	10ks	.....	W	0.05	1.3	Cloudy	
Morgantown, West Virginia	28.57	725.7	29.51	749.5	57	13.9	52	SW	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	23.59	599.2	29.95	760.7	20	— 6.7	70	W	18	8.0	.....	8k	0	W	.....	0.03	0.8	Fair	
Nashville, Tennessee	29.18	741.1	29.72	754.9	46	7.8	62	W	8	3.6	.....	.....	10ks	.....	W	0 88	22.4	Cloudy	
New Haven, Connecticut	29.99	761.7	30.12	765.0	19	— 7.2	85	NE	11	4.9	.....	5cs	2s	NW	NW	0	0	Cloudy	
New London, Connecticut	30.09	764.3	30.14	765.5	25	— 3.9	75	NE	6	2.7	.....	7k	0	SE	.....	0	0	Fair	
New Orleans, Louisiana	29.72	754.9	29.78	756.4	62	16.7	77	N	6	2.7	.....	0	5s	.....	Calm	0.42	10.7	Fair	
Newport, Rhode Island	30.09	764.3	30.14	765.5	27	— 2.8	70	NE	4	1.8	.....	2k	0	SE.	.....	0	0	Clear.	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.87	758.7	30.06	763.5	31	— 0.6	79	NE	14	6.3	.....	5ck	5s;hz	SW	Calm	0	0	Cloudy	
Norfolk, Virginia	29.75	755.6	29.80	756.9	55	11.7	80	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.01	686.0	29.74	755.4	17	— 8.3	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	44.0	6.7	92	S	2	0.9	.....	.....	10n	.....	Calm	0.46	11.7	Light rain	
Omaha, Nebraska	28.66	728.0	29.80	756.9	25	— 3.9	87	NW	16	7.2	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Oswego, New York	29.43	747.5	29.76	755.9	28	— 2.2	77	S	16	7.2	.....	5cs	Haze	S	.....	0	0	Fair	
Pembina, Dakota	29.00	736.6	29.04	760.5	—10	—23.3	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Pensacola, Florida	29 73	755.1	29.76	755.9	65	18.3	94	SW	9	4.0	.....	7k	0	W	.....	0.46	11.4	Fair	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	33	0.6	79	NE	12	5.4	.....	10cs	0	W	.....	0	0	Cloudy	
Phœnix, Arizona	28.81	731.8	30.68	779.3	39	3.9	82	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.36	440.9	29.57	751.1	—10	—23.3	54	N	44	19.7	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.27	743.4	30.13	765.3	37	2.8	62	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.12	612.6	29.89	759.2	29	— 1.7	67	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.73	729.7	29.52	749.8	48	8.9	78	SW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Port Huron, Michigan	28.66	728.0	29.31	744.5	36	2.2	90	SE	10	4.5	.....	.....	10n	.....	SE	0.41	10.4	Light rain	
Portland, Maine	30.13	765.3	30.18	766.6	16	— 8.9	66	N	4	1.8	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Portland, Oregon	30.16	766.8	30.22	767.6	48.5	9.2	89	SW	8	3.6	.....	.....	10s	.....	.....	0.18	4.6	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	94	SE	12	5.4	.....	2k	8s	SE	Calm	0	0	Cloudy	
Prescott, Arizona	24.78	629.4	30.14	765.5	26	— 3.3	75	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.86	758.4	29.88	758.9	68	20.0	84	SE	12	5.4	.....	1cs	8ks	Calm	SW	0	0	Cloudy	
Red Bluff, California	29.87	758.7	30.24	768.1	46.5	8.1	74	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grand e City, Texas	29 70	754.4	29.91	759.7	61	16.1	40	N	.....	.....	4	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	28.98	736.1	29.59	751.6	39	3.9	73	S	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.72	754.9	30.30	769.6	47	8.3	96	Calm	0	0	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Sacramento, California	30.13	765.3	30.21	767.3	42.5	5.8	87	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.09	738.9	29.67	753.6	34	1.1	70	W	24	10.7	.....	.....	10ks;s	.....	W	0.06	1.5	Cloudy	
St. Paul, Minnesota	28.84	732.5	29.68	753.9	32	0.0	79	NW	12	5.4	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Salt Lake City, Utah	25.78	654.8	30.11	764.8	33	0.6	51	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Threatening	
San Antonio, Texas	29.29	744.0	29.80	756.2	60	10.0	45	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.95	760.7	30.03	762.7	49	9.4	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	28.73	729.7	29.38	746.2	46	7.8	92	S	12	5.4	.....	.....	10n	.....	Calm	0.32	8.1	Light rain	
Sandy Hook, New Jersey	30.01	762.2	30.05	763.3	34	1.1	90	E	24	10.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
San Francisco, California	30.15	765.8	30.22	767.6	43	6.1	96	NE	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.26	590.5	29.79	756.7	23	— 5.0	34	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.72	754.9	29.81	757.2	60	15.6	94	S	3	1.3	.....	2c	2s	SW	Calm	0.10	2.5	Fair	
Shreveport, Louisiana	29.71	754.6	29.93	760.2	45	7.2	68	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.78	756.4	29.82	757.4	60	15.6	94	Calm	0	0	.....	2k	8s	Calm	Calm	0.08	2.0	Cloudy	
Socorro, New Mexico	25.42	645.7	29.48	748.8	28	— 2.2	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	28.93	734.8	29.61	752.1	34	1.1	79	W	18	8.0	.....	.....	10s	.....	W	0.25	6.3	Cloudy	
Springfield, Massachusetts	30.02	762.5	30.16	766.1	16	— 8.9	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.92	683.8	29.92	760.0	34	1.1	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.11	764.8	30.16	766.1	34	1.1	90	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	28.66	728.0	29.32	744.7	45	7.2	92	SW	12	5.4	.....	.....	10n	.....	W	0.52	13.2	Light rain	
Tucson, Arizona	27.50	698.5	30.05	763.3	39	3.9	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.64	752.8	29.90	759.4	49	9.4	57	N	4	1.8	.....	0	0	.....	.....	0.37	9.4	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	31	— 0.6	69	SW	19	8.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.78	756.4	30.17	766.3	37	2.8	95	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Light fog	
Washington, D. C.	29.76	755.9	29.88	758.9	42	5.6	83	E	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.70	754.4	29.77	756.1	59	15.0	94	SE	5	2.2	.....	5ck	5s	SW	SW	0.06	1.5	Cloudy	
Winnemucca, Nevada	25.83	656.1	30.19	766.8	30	— 1.1	78	SW	14	6.3	.....	0	4s	.....	SW	0	0	Fair	
Wood's Holl, Massachusetts	30.08	764.0	30.12	765.0	34	1.1	79	SE	4	1.8	.....	.....	10ks	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.61	726.7	29.99	761.7	17	— 8.3	67	NW	8	3.6	.....	0	0	.....	.....	0.08	2.0	Clear	
Yuma, Arizona	29.84	757.9	29.98	761.5	57	13.9	41	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.86	758.4	29.91	759.7	72	22.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	75	23.9	82	SE	4	1.8	.....	8k	0	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	75	23.9	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	80	26.7	82	E	.....	.....	2	5k	7ks	E	.....	0.748	19.00	½ cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.30	744.2	29.85	758.2	78	25.6	84	Calm	.....	.....	0	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	29.96	761.0	29.99	761.7	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.08	764.0	30.13	765.3	—33.0	—36.1	.....	SE	10	4.5	.....	2k	0	SE	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Caster, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.· Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,200 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.70‡	754.4‡	.....	.....	64	17.8	89	SW	9	4.0	.....	.....	5	.....	SW	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.72‡	754.9‡	.....	.....	10	—12.2	100	NW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, Coquimbo, Chili	29.90‡	759.4‡	.....	.....	63	17.2	83	NNW	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	D. clouds	
Colorado, New York, N. Y.	30.02‡	762.5‡	.....	.....	30	— 1.1	100	NE	3.3	1.5	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Constitution, Fredericksted, Santa Cruz, W. I.	30.00‡	762.0‡	.....	.....	76	24.4	49	ENE	.....	.....	3	.....	1	.....	ENE	.....	.....	.....	.....	Clear.	
Enterprise, Piraeus, Greece	30.18‡	766.6‡	.....	.....	43	6.1	67	NNW	.....	.....	3	.....	6	.....	N	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.86‡	758.4‡	.....	.....	54	12.2	80	NE	7.2	3.2	.....	.....	10	.....	S	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.24‡	768.1‡	.....	.....	44	6.7	92	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy	
Kearsarge, Key West, Fla.	29.94‡	760.5‡	.....	.....	74	23.3	76	S	.....	.....	3	.....	8	.....	S	.....	.....	Smooth	.....	Cloudy	
Lackawana, N. 34° 33′, W. 150° 10′	30.37‡	771.4‡	.....	.....	62	16.7	88	S	.....	.....	2	.....	10	.....	SE	.....	.....	Smooth	.....	Cloudy	
Marion, S. 6° 10′, W. 34° 12′	29.90‡	759.4‡	.....	.....	82	27.8	71	ESE	.....	.....	4	.....	2	.....	ESE	0	0	Mod'ate	ESE	Clear	
Michigan, Erie, Pa.	29.42‡	747.3‡	.....	.....	43	6.1	67	SSE	.....	.....	5	.....	10	.....	SSE	.....	.....	.....	.....	Raining	
Monocacy, Shanghai, China	30.63‡	778.0‡	.....	.....	28	— 2.2	77	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
New Hampshire, Port Royal, S. C.	29.80‡	756.9‡	.....	.....	62	16.7	88	SW	7	3.1	.....	.....	10	.....	SW	0.05	1.3	.....	.....	Raining	
Nipsic, La Guayra, Venezuela, S. A.	29.84‡	757.9‡	.....	.....	76	24.4	91	ENE	.....	.....	2	.....	10	.....	ENE	.....	.....	Long Mod'ate	ENE	Misty	
Onward, Callao, Peru	29.87‡	758.7‡	.....	.....	67	19.4	95	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Mod'a' smooth	W	Foggy	
Palos, Tientsin, China	30.74‡	780.8‡	.....	.....	17	— 8.3	100	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	29.89‡	759.2‡	.....	.....	42	5.6	74	NE	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.86‡	758.4‡	.....	.....	69	20.6	95	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Misty	
Powhatan, Navy Yard, Brooklyn, N.Y.	30.07‡	763.8‡	.....	.....	32	0.0	79	ENE	.....	.....	2	.....	8	.....	.....	Light	Light	.....	.....	Cloudy	
Quinnebaug, Leghorn, Italy	30.27‡	768.8‡	.....	.....	51	10.6	79	E	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Fair	
Ranger, N. 34° 30′, W. 149° 35′	30.33‡	770.4‡	.....	.....	61	16.1	88	SW	.....	.....	1	.....	10	.....	S	.....	.....	Smooth	.....	Cloudy	
Richmond, Hong-Kong, China	30.21‡	767.3‡	.....	.....	61	16.1	88	NE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.03‡	762.7‡	.....	.....	63	17.2	100	NNW	3	1.3	.....	.....	5	.....	NNW	0	0	.....	.....	Fair	
Santee, Annapolis, Md	29.92‡	760.0‡	.....	.....	43	6.1	83	E	.....	.....	4	.....	10	.....	S	0	0	.....	.....	Overcast	
Shenandoah, Montevideo, Uruguay	29.95‡	760.7‡	.....	.....	81	27.2	55	NNE	.....	.....	2	.....	5	.....	NNE	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.00‡	762.0‡	.....	.....	36	2 2	80	NE	8	3.6	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Swatara, N. 42° 23′, W. 66° 28′	30.13‡	765.3‡	.....	.....	27	— 2.8	100	N	.....	.....	5	.....	8	.....	N	.....	.....	Mod'ate	N	Cloudy	
Tennessee, Hampton Roads, Va.	29.83‡	757.7‡	.....	.....	49	9.4	93	E	14	6.3	.....	.....	10	.....	SE	0	0	.....	.....	Hazy	
Trenton, Port Mahon, Minorca, Med	30.30‡	769.6‡	.....	.....	.....	.....	.....	Var.	.....	.....	1	.....	5	.....	N	0	0	.....	.....	Fair	
Tuscarora, La Union, S. Salvador	29.93‡	760.2‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	8	.....	Calm	.....	.....	Smooth	.....	Fair	
Wabash, Boston, Mass.	30.12‡	765.0‡	.....	.....	19	— 7.2	85	Calm	0	0	.....	.....	10	.....	.....	0.37	9.4	.....	.....	Cloudy	
Wyoming, Toulon, France	30.22‡	767.6‡	.....	.....	54	12.2	55	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:36 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian, N. 48° 53′, W. 52° 00′		29.59‡	750.0‡	33	0.6	100	W			5		10		W		Smooth		Raining	R. Carruthers.
S. S. Hibernian, F. Archer, N. 52° 00′, W. 18°59′		30.36‡	771.1‡	49	9.4		SE			5		10		SE		Mod'ate	SE	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 42° 01′, W. 59° 55′		30.03‡	762.7‡	33	0.6		W			8		8		W	Heavy	Heavy	W	Fair	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 43° 36′, W. 45° 20′		30.11‡	764.8‡	61.0	16.1	82	SSW			5		8		SW		Mod'ate	SSW	Drizzling	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 42′, W. 44° 19′		29.90‡	759.4‡				SE			5		10		SSE		Long	N	Light rain	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 38° 27′, W. 146° 44′ †.		30.27‡	768.8‡	60	15.6	100	N			2		10		S		Smooth		Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, N. 32° 24′, E. 134° 39′ †.		30.18‡	766.6‡	53	11.7		NNE			5		ks		NE	Slight	Rough	NE	Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, N. 42° 30′, W. 124° 43′	1	30.28‡	769.1‡	48	8.9		Var.			1		10				Mod'ate	W	Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury, N. 29° 27′, E. 127° 23′	f	29.92‡	760.0‡	60	15.6	71	NW			5		5k		NW	0	Smooth		Squally	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 24° 40′, W. 152° 08′		30.12‡	765.0‡				ENE			6				NE		High	NE	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson, N. 49° 09′, W. 26° 00′		29.94‡	760.5‡	57	13.9		SSW	15	6.7			5		SSW	3 h'rs	Smooth		Fair	
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 42° 49′, W. 53° 18′		29.90‡	759.4‡	45	7.2		NW			2				NW	12hours	Mod'at	ESE	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 40° 40′, E. 7° 15′	*	29.77‡	756.1‡	55	12.8		WSW			5		5		WSW		Mod'ate	WSW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin, N. 17° 56′, W. 65° 45′	†	30.14‡	765.5‡	82	27.6		NE			4		2		NE	0	Mod'ate	E	Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

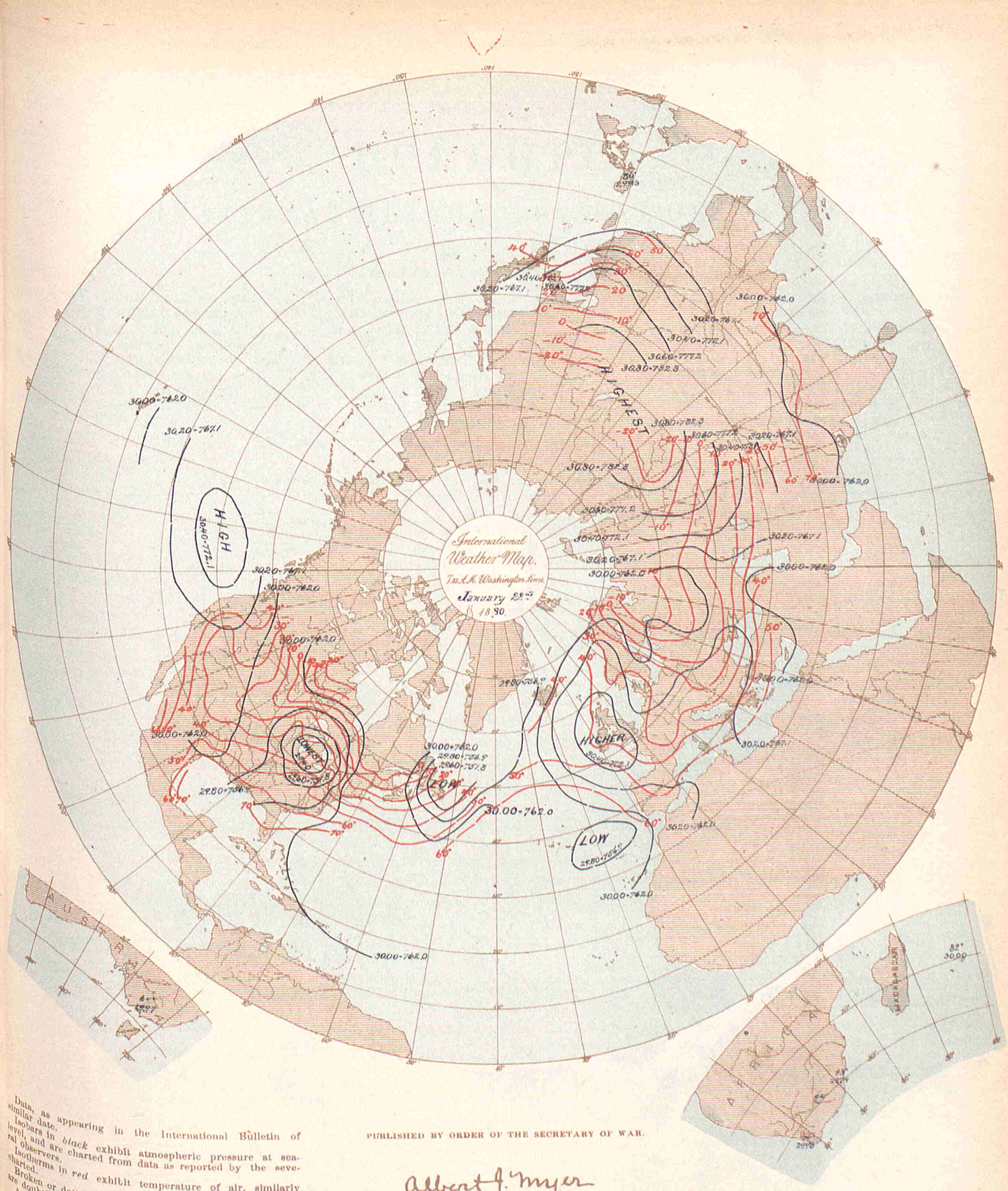
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 23, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.04	763.0				SW			3		7			0.039	1.0	Very cloudy	
Nemours			30.04	762 9	62.4	16.9	79	Calm			0		4			0	0	Cloudy	Kesxuche.
Algiers			30.02	762 6	54.7	12.6	63	NNW			2		10			0.134	3.4	Covered	Tourillere.
La Calle			29.98	761.5	60.4	15.8	69	NE			1		4			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Saida.
Saida			30.16	766.0															Gau.
Tebessa			30.02	762.5															Herbin.
Geriville			30 12	765.1	54.1	12.3	47	NNW			1		8			0	0	Very cloudy	Watrin.
Laghouat								NNW			2		2			0	0	Fair	Brugnlaux.
Biskra			30.16	766.0	53.2	11.8	30	WNW			5		9			0	0	Covered	Bertrand.
			30.10	764.4	54.0	12.2	80	WNW			1		9			0	0	Covered	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 800? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.																			
Agram	29.71	754.7	30.31	769.9	21.0	— 6.1	82	SE			2		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.43	747.6	30.26	768.5	23.7	— 4.6	90	WSW	5.1	2.3			10			0.008	0.2		Dr. Wierzbicki.
Eperies	29.35	745.5	30.33	770.3	10.8	—11.8	93	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.97	735.8	30.30	769.6	27.7	— 2.4	50	S			2		7			0	0		Andreas Rospini.
Hermannstadt	28.79	731.3	30.39	772.0	5.6	—14.7	100	WNW			1		0			0	0		Prof. A. Gottschling
Kremsmünster	28.90	734.1	30.35	770.8	23.4	— 4.8	95	W			1		10			0	0		Prof. C. Wagner.
Lemberg	29.12	739.6	30.19	766.7	20.3	— 6.5	97	NW			1		9			0.063	1.6		Dr. T. Stanecki.
Pola	30.15	765.9	30.26	768.7	39.6	4.2	58	SSE			2		8			0	0		I.R.Hydrographic Office
Szathmar	29.87	758.7	30.38	771 7	15.4	- 9 2	50	E			2		10			0.322	8.2	Snowing	Pet. Pancsics, S. J.
Szegedin	30.02	762.4	30.32	770.2	14.4	— 9.8	94	NW			3		3			0	0		Karl Stancel.
Trieste	30.19	766.7	30.29	769.3	38.8	3.8	42	Calm			0		0			0	0		P. Busin.
Vienna	29.53	760.1	30.29	769.3	24.4	— 4.2	78	W			4		10			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon																			Prof. M. Passau.
Brussels	30.20	767.0	30.41	772.4	32.9	0.5	93	NNE			1		10			0.020	0.50	Light rain	Royal Observatory.
Furnes	30.43	772.9	30.45	773.5	35.2	1.8	75	E			2		9			0	0		M. E. de Cae.
Maeseyck	30.29	769.3	30.41	772.5	33.1	0.6		N			2		10			0.28	7.		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.31	769.9	30.41	772.4	38.6	3.7		SW	6	2.7			6			0	0	Misty	W. Boswell.
Ardrossan	30.46	773.7	30.48	774.2	40	4.4		WSW			2		8					Misty	G.Carrick.
Armagh, (Observatory)	30.31	769.9	30.56	776.2	28.5	— 1.9		S	2	0.9			10					Foggy	S. Call.
Bidston (Liverpool Obs)			30.52	775.2	36.3	2.4		E	6	2.7			3					Blue sky	John Hartnup.
Bolton (Sharples)	29.94	760.5	30.48	774.2	34 7	1.5		NNW					10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.09	764.3	30.49	774.4	36.8	2.7	75	NW			4		8			0.02	0.5	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.95	760.7	76	24.4		SE			2		6					Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.38	771.6	30.48	774.2	37.0	2.8		N			1		10					Overcast	H. Todd.
Cardington			30.47	773.9	37.0	2.8		N			0-1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.34	770.6	30.47	773.9	37.1	2.8		N			1		10k					Overcast	W. Gibson, Sapper, R.E.
Donaghadee	30.48	774.2	30.53	775.4	30	— 1.1		NW			1		10					Overcast	J. Mac Gowan.
Dover	30.41	772.4	30.44	773.2	38	3.3		E			3		7					Showery	J. Costello.
Falmouth (Observatory)	30.27	768.8	30.51	774.9	39.4	4.1		NNE			2		5					Foggy	The Staff.
Fort Napier, Natal	27.48	698.0	29.70	754.4	103 2	39.6		NW			1		0					Blue sky	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.49	774.4	27	— 2.8		ENE			1		10			0	0	Foggy	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.26	768.6	30.46	773.7	35.0	1.7		W			2		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.44	773.2	30.45	773.4	38	3.3		NNE			2		6					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.30	769.6	30.48	774.2	37.2	2.9		N			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	30.21	767.3	30.44	773.2	40	4.4		NNE			1		8					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.59	777.0	30.72	780.3	40	4.4		NE			2	3c				0	0	Fine	M. P. Moyle.
Holyhead	30.45	773.4	30.52	775.2	39	3.9		NW			3		7					Misty	John Tilston.
Jersey	30.17	766.3	30.48	774.2	39.3	4 1		NE			2		8					Gloomy	J. Fisher.
Kew (Observatory)	30.45	773.4	30.49	774.4	37.5	3.1		N					10					Misty	The Met'g'l Office.
Leicester (Museum)	30.25	768.3	30.52	775.2	36.5	2.5		NE			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.05	763.3	30.13	765.3	53.8	12.1		SE			2		8cs					Overcast	A. King.
Nairn	30.30	769.6	30.40	772.1	41	5.0		WNW			1		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			29.96	761.0	66.0	18.9		S			1		0					Blue sky	C. S. Duncombe.
Nottingham (Observatory)	30.31	769.9	30.51	774.9	38.3	3.5		N			2		10k		E	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.96	761.0	30.51	774.9	35.1	1.7		N			2-3		10					Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.26	768.6	30.52	775.2	37	2.8		E			1		10					Overcast	H. E. Bellamy.
Plymouth	30.42	772.7	30.49	774.4	38.0	3.3		ENE			2		10					Overcast	John Merrifield.
*Roche's Point	30.43	772.9	30.50	774.7	42	5.6		E			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.35	770.9	30.52	775.2	38	3.3		E			1		0					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.30	769.6	45.5	7.5		W	30	13.4			10					Raining	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.23	767.8	30.30	769.6	30.4	— 0.9		N			2		1					Blue sky	Serg't W. H. Lyne.
Sheffield	30.23	767.8	30.52	775.2	37.6	3.1		NNE			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.46	773.7	30.49	774.4	35.2	1.8	83	Calm			0		10			0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.49	774.4	35.2	1.8		SSW	1	0.4			10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss					36.0	2.2		NE			2		10					Overcast	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.40	772.1	30.50	774.7	43	6.1		NE			4		4					D. clouds	W. Newcombe.
Valencia Observatory)	30.47	773.9	30.50	774.7	38.8	3.8		NE	3	1.3			2					Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.06	763.5	30.10	764.5	74.8	23.8	52	SW	2.2	1.0		1	4			0	0	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.54	648.7			96	35.6		W				1c	3k						Robert Burnet.
Constable, Cape Colony	26.78	680.2			78	25.6		NW					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.01	762.3	79.3	26.3	75	SE	18.5	8.3		3	6	N	E	0.25	6.4	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.72	754.9	29.82	757.4	63.2	17.3	98	SSW	12	5.4		10				0.05	1.3	Dull	J. Youngclause.
Monach Lt-house, Hebrides			30.42	772.7	46	7.8		W			4	10				0	0		
North Unst, Shetland Is			30.15	765.8				NW			3	4	7	NNW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palm as uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.																Sea or swell: Height scale 0 9	Sea or swell: Direction from-		
H. M. S. Alert, Tilly Bay, Patagonia			29.48‡	748.8‡	50	10.0		WNW			3		8					Showery	Capt. A. J. Brown
City of Agra, S. 55° 00′, W. 103° 40′			29.83‡	757.7‡	45.6	7.6		NNW			5		10					Overcast	Capt. Thos. Young.
City of Cashmere, S. 47° 45′, W. 46° 25′			29.87‡	758.7‡	54	12.2		NNW			6		8					D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 37° 45′, W. 29° 20′			30.16‡	766.1‡	61.5	16.4		ENE			1		7					D. clouds	Capt. Jas. Buchan.
Barque Dochra, S. 44° 09′ W. 120° 20′			30.07‡	763.8‡	54	12.2		NW			3		10					Drizzling	Capt. N. Spalding.
Barque Fedalma, N. 49° 30′, W. 20° 15′			30.08	764.0	57	13.9		SE			6		10			5	ESE	Raining	Capt. H. L. Fox.
Bqte Fylde, N. 44° 50′, W. 27° 30′			30.15	765.8	57	13.9		W			1		6			5	NNE	D. clouds	Capt. L. C. Dart.
S. S. German, S. 33° 07′, E. 27° 47′			29.88‡	758.9‡	74	23.3		W			5		5					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 21° 05′, W. 73° 45′			30.03	762.7	76	24.4		SE			4		5			4	SE	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 0° 46′, E. 84° 20′			29.92‡	760.0‡	83.5	28.6		NNE			1		4					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 37° 20′, E. 6° 00′			29.93‡	760.2‡	55.5	13.1		NNE			3		2					Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	BAROMETER. Corrected for instru-m'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.18	665.0	29.90	759.4	62.6	17.0	84	SE			2	1d				0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.24	768.1	30.29	769.3	25.0	— 3.9	71	W			2		8						
Fanöe	30.34	770.7	30.37	771.3	33.3	0.7	82	W			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)	30.06	763.4	30.10	764.5	29.8	— 1.2	100	W			6		5						
Thorshavn (Faröe)	30.09	764.2	30.12	765.1	42.8	6.0	70	W			7		7						
Vestervig	30.16	766.1	30.27	768.9	35.4	1.9	77	W			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.88	758.9	30.43	772.9	34.9	1.6	96	NE			2		5km	NW	W	0.004	0.1	Cloudy	Collignon, Director.
Amiens, Normal School	30.32	770.2	30.44	773.2	36.7	2.6	83	NE			1		5		Calm	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.15	765.9	30.43	772.9	34.2	1.2	95	NE			1		k;n		NNW	0.031	1.3		Klein, Commandant.
Avignon, Normal School	30.08	763.9	30.15	765.9	38.3	3.7	60	N			4		10		E	Inap.	Inap.	Snow-flakes	Giraud, Director.
Bar-sur-Seine	29.80	756.8	30.39	771.9	30.0	— 1.1	80	ESE			1		10			0.059	1.5	Covered	C. Saillard, Director.
Beauvais, Normal School	30.14	765.5	30.42	772.7	36.1	2.3	79	NE			1		10			0.030	0.75	Covered	Frère Eugene Marie.
Besançon, Normal School	29.41	747.1	30.37	771.3	27.1	— 2.7		NNE			1		0			0	0	Clear	A. Carré, Director.
Bordeaux	30.08	764.1	30.28	769.1	36.3	2.4	73	N			2		2			0	0	Slightly cld'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.40	746.7	30.36	769.7	25.9	— 3.4	100	N			1	c				0	0		Marlot, Director.
Bourges, Normal School	29.80	756.8	30.38	771.7	32.4	0.2	97	NE			3		10n		NE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.20	767.1	30.45	773.3	42.8	6.0	70	NE			1		4		NE	0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.35	771.0	30.43	773.0	37.8	3.2	80	NE			1		10		NNW	0.028	0.7	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.73	755.2	30.17	766.2	37.9	3.3	51	W			3		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'	30.01	762.3	30.35	770.9	31.1	— 0.5		N			1		10	E	E			Covered	Jadot, Director
Chartres, Normal School	29.76	756.0	30.36	771.2	35.1	1.7	81	N			1		10		SW	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.86	733.1	30.31	769.8	29.5	— 1.4	88	N			3		10			0.008	0.2		Alluard, Director.
Commercy, Normal School	29.43	747 6	30.35	770.8	29.1	— 1.6		ENE			1		5kn	E	ENE			Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.98	734.8	30.07	763.8	32.7	0.4	96	NE			3		10		SE	0	0	Snowing	L. Kina, Director.
Grenoble, Normal School	29.49	749.0	30.32	770.2	42.1	5.6		ENE			1		kn						Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.16	766.1	30.39	771.9	36.7	2.6	89	NW			1		5		NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	30.10	764.5	30.42	772.7	36.3	2.4	75	NE			2		8		ENE	0.008	0.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.27	743.4	30.27	768.9	27.5	— 2.5	92	N			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.32	770.0	30.43	772.8	40.6	4.8	74	NNE			2		8		NE	0	0	¾ covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.64	752.9	30.30	769.7	26.2	— 3.2	78	NNE			1					0	0		Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.76	755.8	30.03	762.8	40.8	4.9	41	ENE			1		9		ESE	Inap.	Inap.	Rain, sleet, snow	E. Stephan, Director.
Mirecourt, Normal School	29.26	743.2	30.38	771.6	28.0	— 2.2	92	NNE			1		km			0	0		Barbier, Director.
Mont-Louis	24.71	627.5	30.02	762.5	25.5	— 3.6	75	NW	9.4	4.2			3		W	0	0		M. Cave
Nîmes, Normal School	30.03	762.8	30.07	763.7	45.7	7.6	40	NE			3		10	E	NE	0.039	1.0	Light rain	M. Boissière, Director.
Paris, Montsouris Obs'y	30.07	763.6	30.28	769.1	36.5	2.5	75	N			1		0			0.04	1.	Clear	M. Boyer, Director.
Perpignan	30.11	764.8			34.9	1.6	96	NE			1		10			0.020	0.5		Marié Davy, Director.
Pic du Midi (Plantade) H. P.	30.02	762.4	30.18	765.3	42.8	6.0	26	N	13.0	5.8			0			0	0	Foggy	Dr. Fines.
Pic du Midi (Summit) H. P.	22.34	567.5			18.1	—10.5									N	0	0		Gen'l de Nansouty
Privas, Normal School																			M. Baylac.
Puy de Dome (Summ') Obs	29.11	739.4	30.25	768.4	26.6	— 3		N			6		5	N	N	0	0	Cloudy	M. Tallieu
Rochefort, Naval Obs'y	25.09	637.2			14.0	—10.0	100	NE			4					0.028	0.7	Foggy	Alluard, Director.
Rouen, Normal School	30.35	770.9	30.38	771.7	37.9	3.3	74	NE			2		10	NE	NE	0	0	Covered	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.35	770.8	30.43	773.0	37.0	2.8	69	NW			1		10			0.024	0.6	Covered	Frère Lucard, Director
Saint Maur (near Paris)	30.39	771.8	30.42	772.6	38.7	3.7	82	ESE			3		5	ESE	ESE	0	0	Cloudy	Lt. Hercouet, Director
Tarbes, Normal School	30.23	767.8	30.39	772.0	34.5	1.4	96	NNE			1		10		NNE	0.024	0.6	Covered	E. Renou, Director.
Toulouse, Observatory	29.66	738.1	30.20	767.0	35.6	2	64	W			1					0	0		T. Huguet, Director.
Tours	29.52	749.8	30.25	768.3	34.3	1.3	78	NW			2		0			0	0	Clear	M. Juher Mercadier.
Versailles, Observatory	30.18	766.5	30.37	771.5	36.3	2.4	85	ENE			1		10		ENE	0	0	Covered	Cousin-Marquet.
Villefranche-sur-Saone, N.S	29.89	759.1	30.38	771.6	33.8	1.0	88	NE			1		10			0.015	0.38	Covered	Dr. A. Berigny, Director
Sub-Series.	29.50	749.2	30.25	768.4	30.2	— 1	96	ENE			1		0			0	0	Clear	Nicot, Director.
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.2	24										0	0		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.60	777.1	30.62	777.7	29.3	— 1.5	77	NNW	12.1	5.4		10ck		W		0	0	Covered	Marc Dechevrens.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 323 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.45	748.0	30.32	770.1	26.2	— 3.2	86	W			4		10ks	W		0.079	2.0	Snowing	Prof. Dr. Hoh.
Berlin	30.11	764.9	30.30	769.5	32.2	0.1	90	NW			2		10			0.012	0.3	Graupelnd.	Prof. Dr. Arndt.
Breslau	29.71	754.5	30.24	768.1	26.8	— 2.9	94	NW			3		10			0.174	4.42	Snow-flakes	Royal University Obsty.
Carlsruhe	29.91	759.7	30.37	771.3	30.6	— 0.8	81	NE			0		10	NE		0	0		Albert Senz.
Cassel	29.74	755.5	30.36	771.1	29.3	— 1.5	92	SW			3		1	NW		0.013	0.32	Snowing	Dr. H. Mühl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.07	763.7	30.45	773.5	27.7	— 2.4	70	SSW			0		7			0.071	1.8	Foggy	Physical Society.
Friedrichshafen	28.84	732.5	30.37	771.4	26.4	— 3.1	64	SE			2		8	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.31	769.9	30.38	771.7	31.1	— 0.5	75	N			3		4			0.016	0.4		Dr. Reinhold Kleeman.
Kiel	30.34	770.6	30.35	771.0	32.5	0.3	89	NW			1		5			0.024	0.60		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.02	762.4	30.10	764.6	27.0	— 2.8	89	SW			2		9			0.083	2.1	Snowing	Prof. E. Luther.
Köslin			30.24	768.0	29.7	— 1.3		N			2		4			0	0		H. Müller.
Leipsic Observatory	29.91	759.7	30.35	771.0	32.2	0.1	89	NNW			2		9	NW		0.154	3.9		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.12	765.0	30.35	770.9	32.5	0.3	94	Calm			0		10ks			0 094	2.4	Snow flakes	Dr. Assmann.
Memel	29.86	758.5	29.91	759.7	20.1	— 6.6	89	NNE			3		1s						Reinbrecht & Issermann.
Munich (München)	28.43	722.0	30.30	769.7	24.6	— 4.1	75	NW			2		10			0	0		Dr. C. Lang.
Neufahrwasser	30.16	766.1	30.17	766.4	29.5	— 1.4	84	NW			3		10			0.055	1.4	Snowing	A. Lothes.
Neustadt (Palatinate)	29.80	757.0	30.34	770.5	30.6	— 0.8		W			1		10	N		0	0		Reallehrer Dicknether,
Posen	29.94	760.5	30.25	768.3	28.8	— 1.8	92	W			2		10			0.079	2.0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.81	757.2	30.40	772.2	27.7	— 2.4	85	Clam			0		1			0.095	2.42		Imp. University Observatory.
Stuttgart	29.36	745.8	30.37	771.3	28.4	— 2.0	84	N					10			0	0		Prof. Dr. Schoder.
Thorn	30.07	763.6	30.25	768.4	25.5	— 3.6	95	W			3		10			0.018	0.45		Dr. Cunerth.
Weissenburg (Bavaria)	28.79	731.3	30.38	771.7	28.8	— 1.8	85	W	0.2	0.1			10		W	0	0	Light fog.	Reallehrer J. Hopfner
Wustrow	30.33	770.3	30.35	770.9	29.7	— 1.3	82	NNW			2		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.6 m., or 1,465.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.90	759.4	30.30	769.7	40.5	4.7		NE			1.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.1	30.06	763.4	73.7	23.2	41	NNE	2	0.9			0			0	0	Blue sky	
Deesa	29.66	753.4	30.15	765.8	70.0	21.1	14	NNE	12.8	5.7			0			0	0	Blue sky	
Bombay	29.92	760.0	29.96	761.0	75.6	24.2	60	NNW	22	9.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.09	713.5	29.94	760.5	81.8	27.7	18	ENE	10	4.5			0			0	0	Blue sky	
Belgaum	27.38	695.5	29.90	759.4	81.9	27.7	30	N	4	1.8			0			0	0	Blue sky	
Lahore	29.37	745.9	30.15	765.8	58.1	14.5	52	Calm	1.0	0.4			0			0	0	Blue sky	
Roorkee	29.15	740.5	30.11	764.7	54.8	12.7	59	NW	4.4	2.0			0			0	0	Blue sky	
Agra	29.54	750.2	30.13	765.3	62.3	16.8	41	NW	6.4	2.9			0			0	0	Blue sky	
Nagpur	28.97	735.8	30.03	762.7	75.9	24.4	33	NNE	4.1	1.8			0			0	0	Blue sky	
Jubbulpore	28.67	728.2	30.09	764.2	64.1	17.8	27	NE	3.4	1.5			0			0	0	Blue sky	
Lucknow	29.68	753.9	30.08	764.0	61.3	16.3	38	NNW	2.7	1.2			0			0.23	5.8	Blue sky	
Allahabad	29.76	755.9	30.09	764.3	61.1	16.2	58	NW	2.5	1.1			0			0	0	Blue sky	
Patna	29.79	756.8	29.98	761.5	69.3	20.7	54	N	0.6	0.3			4	N	N	0.09	2.3	D. clouds	
Hazaribagh	27.90	708.7	29.97	761.1	66.8	19.3	19	WNW	8.8	3.9			2			0.15	3.8		
Cuttack	29.86	758.4	29.94	760.5	78.2	25.7	63	SSW	3.6	1.6			2			0	0	D. clouds	
Calcutta (Alipore)	29.91	759.6	29.93	760.2	74.6	23.7	78	S	5.0	2.2			8					Drizzling	
Goalpara	29.57	751.0	29.97	761.2	65.8	18.8	63	Calm	1.7	0.8			1		W	0	0	D. clouds	
Chittagong	29.84	757.8	29.93	760.2	71.6	22.0	69	NNE	3.4	1.5			4			0	0	Misty	
Sibsagar	29.71	754.7	30.07	763.7	61.7	16.5	85	N	1.2	0.5			6	SW	SW	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.86	758.4	30.30	769.5	35.6	2.0	63	W	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.74	755.5	30.30	769.6	33.8	1.0	98	WNW	.....	.....	.....	.....	7	.....	.....	0.197	5.0	.....	Prof. Schiaparelli.
Padua	30.20	767.1	30.32	770.1	33.8	1.0	58	NNE	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.30	745.6	30.30	769.7	29.5	— 1.4	92	NNW	4.9	2.2	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. P. F. Denza.
Genoa	30.01	762.3	30.22	767.5	30.9	— 0.6	73	N	13.0	5.8	.....	.....	10	N	.....	0.020	0.5	.....	Prof. G. M. Garibaldi.
Mondovi	28.29	718.6	30.32	770.1	26.6	— 3.0	82	W	.....	.....	4	.....	10	.....	.....	0.236	6.0	.....	Prof. D. C. Bruno.
Pesaro	30.20	767.1	30.26	768.5	30.4	— 0.9	82	NW	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.96	760.9	30 23	767.9	34.2	1.2	91	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.04	763.1	30.13	765.4	33.8	1.0	87	ENE	13.7	6.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.97	761.3	30.15	765.9	40.3	4.6	44	E	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.01	762.3	30.26	769.0	40.8	4.9	43	ENE	6.9	3.1	.....	.....	5	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.37	745.9	30.37	771 5	36.0	2.2	82	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.81	757.1	30.00	762.0	52.3	11.3	63	SE	.....	.....	2	.....	9	E	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.88	759.0	30.14	765.5	52.7	11.5	48	SE	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Prof. G. Ciaccíatore.
Syracuse	30.15	765.7	30.19	766.8	49.5	9.7	57	NE	2.5	1.1	.....	.....	10	SW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.66	753.3	30.21	767.2	42.4	5.8	51	NW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.41	772.4	30.42	772.6	34.3	1.3	70	NNE	6.9	3.1	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.35	770.9	40.8	4.9	64	NE	3.4	1.5	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.21	767.3	30.28	769.1	30.6	— 0.8	52	NNW	6.3	2.8	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	30.33	770.4	30.39	771.9	34.5	1.4	70	ENE	3.3	1.5	.....	6ck	0	N	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	24.04	633.5	30.02	762.4	50.0	10 0	57	Calm	.....	.....	0	3ck	0	.....	.....	0	0	Clear.	R. Banda, C. E.
Guadalajara	24.31	617.5	29.98	761.6	54.0	12.2	88	W	.....	.....	3	3c	2ks	SW	.....	0	0	.....	Prof. L. Perez.
Leon	29.65	753.2	29.91	759.8	65.5	18.6	94	E	.....	.....	1	8cs	0	Calm	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	22.93	582.4	29.93	760.3	50.9	10.5	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	F. Quijano, C. E.
Mexico, Central Observatory	24.02	610.0	.....	.....	55.0	12.8	56	NW	.....	.....	7	8c	3k	S	N	0	0	Cloudy.	The Staff
Morelia	23.80	604.5	29.86	758.4	49.8	9.9	46	Calm	.....	.....	0	.....	10ks	.....	SW	0	0	Covered	M. Fena, M. D.
Pabellon (Aguascalientes)	23.26	590.8	30.01	762 2	51.8	11.0	50	E	7.2	3.2	.....	.....	10	.....	SW	0	0	Covered	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.99	609.4	29.95	760.7	54.7	12.6	54	NW	.....	.....	1	4	1	W	E	0	0	Fair	Prof. P. Spina.
San Luis Potosi	29.81	757.2	29.82	757.5	71.1	21.7	95	S	.....	.....	1	1	8	S	SW	0	0	Cloudy	G. Barroeta, M. D.
Tacotalpam	29.80	756.9	29.83	757.6	73.4	23.0	87	Calm	0	0	.....	.....	10k	.....	.....	0	0	Very cloudy	Prof. M. M. Chazaro.
Vera-Cruz	22.43	569.6	30.08	764.1	50.7	10.4	51	Calm	.....	.....	0	9k	0	SW	.....	Inap.	Inap.	Cloudy	Prof. J. Rossell
Zacatecas																			J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.6 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.45	773.5	30.45	773.5	34.2	1.2	.....	NE	.....	.....	3	.....	.....	.....	.....	0.047	1.2	.....	
Groningen	30.37	771.4	30.43	772.8	33.4	0.8	.....	NNE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.43	772.9	30.43	772.9	34.0	1.1	.....	NNE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.45	773.4	30.45	773.4	33.6	0.9	82	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.39	772.0	30.44	773.2	34.9	1.6	64	N	.....	.....	2	.....	10	.....	.....	0.012	0.3	Dull	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Empera-ture of the Air. Fahrenheit.	Empera-ture of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.13	765.2	30.18	766.6	34.9	1.6	93	SSE	11.4	5.1	.....	.....	10	.....	.....	0.039	1.0	.....	
Brönö	29.52	749.8	29.56	750.8	39.2	4.0	67	SW	36	16	.....	.....	10	.....	.....	0.047	1.2	.....	
Christiana	29.97	761.2	30.13	765.3	15.1	— 9.4	91	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	
Tromsö	28.94	735.0	28.98	736.1	35.6	2.0	78	SW	34	15	.....	.....	10	.....	.....	0.433	11.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.2	30.04	763.0	52.5	11.4	55	ENE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.87	758.6	29.95	760.8	65.5	18.6	66	SW	5.6	2.5	.....	.....	2	.....	.....	0.067	1.7	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.69	754.0	30.06	763.5	50.2	10.1	67	NNE	18.1	8.1	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.05	763.3	30.12	765.1	62.6	17.0	72	NE	5.6	2.5	.....	.....	4	.....	.....	0.071	1.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima. Capt. E. C. da Silva Costa, Bulama, Bissago Islands, Africa	.....	.....	.....	.....	80.2	26.8	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky.	J. T. d'Oliveria, Com'd'r.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Pereira, 2nd Lieut.
Sado, Capt. J. A de Brito Capello, Mossamedes, Lower Guinea	.....	.....	29.87	758.7	71.1	21.7	.....	NW	.....	.....	4	.....	4	.....	NW	2	NNW	D. clouds	F. Teixeira da Silva, Com'd'r.
Tejo, Capt. J. M. T. Guimarães, Macao, China	.....	.....	30.35	770.8	60.8	16.0	.....	N	.....	.....	4	.....	10	.....	N	2	.....	Foggy	F. de Assis Camillo, jun., Q. M.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.84	757.9	29.86	758.4	— 8.7	—22.6	90	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.17	766.2	30.08	764.1	9.5	—12.5	81	N	4	2	.....	.....	3cs	.....	.....	Blank	Blank	Light clouds	Capt. Wisganow.
Barnaul	30.34	770.5	30.94	785.8	—24.3	—31.3	89	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.89	759.2	30.16	766.1	7.2	—13.8	92	WSW	2	1	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.37	746.0	30.46	773.8	— 5.3	—20.7	69	SSE	13	6	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.93	760.1	30.23	767.8	— 0.2	—17.9	81	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.51	749.5	30.22	767.6	2.3	—16.5	90	N	2	1	.....	.....	9cks,n	.....	.....	.....	.....	Foggy	Physical Cabinet.
Krotzowo*	29.69	754.1	30.22	767.5	4.5	—15.3	71	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.03	762.8	30.26	768.7	— 6.5	—21.4	71	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.60	751.9	30.23	767.7	— 5.8	—21.0	72	S	7.8	3.5	.....	.....	7s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.97	710.3	30.59	776.9	— 8.7	—22.6	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nikolajev	30.21	767.4	30.28	769.2	4.3	—15.4	81	N	9	4	.....	.....	8cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.02	762.4	30.27	768.9	15.8	— 9.0	88	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.47	773.8	30.61	777.4	16.5	— 8.6	61	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	.....
St. Petersburg	30.06	763.4	30.07	763.8	6.4	—14.2	92	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.62	727.0	30.28	769.0	34.2	1.2	82	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.48	723.3	29.96	760.9	32.9	0.5	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.72	754.8	30.17	766.3	22.8	— 5.1	88	W	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow.	.....
Wilna	29.68	753.9	30.14	765.5	11.8	—11.2	83	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Astronomical Obs.
Yeniseisk	30.65	778.6	30.98	787.0	— 6.2	—21.2	80	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 465 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.93	760.2	30.04	763.0	43.7	6.5	57	N	3.9	1.75	.....	.....	7	.....	.....	0	0	½ Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.25	768.3	30.31	769.8	44.6	7.0	59	NE	2.4	1.09	.....	3	1	SE	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.7	.....	.....	33.8	1.0	74	NE	5.7	2.55	.....	0	2	.....	.....	0	0	Light clouds	Domingo Martiny Perez.
Madrid, Royal Observatory	27.81	706.4	30.19	766.9	45.9	7.7	52	NW	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.91	759.7	30.07	763.6	51.8	11.0	79	ENE	1.8	0.81	.....	5	5	WSW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.4	30.10	764.5	50.5	10.3	60	SE	9.4	4.2	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.88	758.9	29.95	760.6	67.4	19.7	88	S	2.2	1.0	.....	0	1s	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.95	760.6	30.00	762.0	79.5	26.4	81	ENE	.....	.....	.....	.....	4ck	.....	E	0	0	Slightly cl'dy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.8	30.01	762.4	68.1	14.5	76	ESE	14.5	6.5	.....	0	10	.....	SE	0.41	1.0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.96	760.7	30.04	763.0	71.2	21.8	88	SE	2.2	1.00	.....	5cks	8k	SE	SE	0	0	Cloudy	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8;19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 656.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.64	752.9	29.68	753.9	6.8	—14.0	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.75	755.7	29.80	757.0	16.2	— 8.8	94	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.86	758.4	29.91	759.7	19.8	— 6.8	78	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.97	761.2	30.15	765.7	18.3	— 7.6	75	WSW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	30.05	763.3	30.11	764.8	25.9	— 3.4	78	NNE	.....	.....	4	.....	5	.....	.....	0.024	0.6	.....	
Sub-Series.																			
Upsala	30.03	762.7	30.11	764.9	17.8	— 7.9	77	SW	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga gives wind-force and weather by Beaufort notations, reduction to sea-level applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.60	731.4	30.32	770.0	24.3	— 4.3	76	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.61	726.7	30.37	771.3	21.2	— 6.0	87	E	.....	.....	2	.....	8	.....	.....	0	0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.9 mm.; Thermometer, —6 ¹ Cent. Relative Humidity, —2 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.35	771.0	30.2	— 1.0	80	NNW	4	2.0	.....	.....	3	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.1	38.5	3.6	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.07	763.6	56.1	13.4	64	W	.....	.....	3	.....	7n	.....	SW	1.04	26.4	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	29.95	760.7	29.96	761.0	10.6	—11.9	.....	NE	1	0.4	.....	.....	.....	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Chatham, N. B	29.87	758.7	29.94	760.5	13.3	—10.4	91	SW	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	19.7	— 6.8	89	SE	12	5.4	.....	3ck	8s	.....	.....	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.25	742.9	29.45	748.0	32.8	0.4	93	W	.....	.....	1	.....	10n	.....	.....	0.45	11.4	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.77	756.1	29.95	760.7	13.5	—10.3	.....	E	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	29.70	754.4	29.73	755.1	19.7	— 6.8	92	Calm	0	0	.....	.....	10n	.....	.....	0.30	7.6	Heavy snow	J. McWilliams.
Fredericton, N. B	29.74	755.4	29.81	757.2	20.5	— 6.4	85	E	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast....	Prof. Harrison.
Fort Garry, Manitoba	28.81	731.8	29.74	755.4	— 8.4	—22.4	94	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.34	719.8	29.47	748.5	28	— 2.2	.....	W	.....	.....	3	.....	10n	.....	.....	0.29	7.4	Light snow..	James Grant.
Halifax, N. S	29.87	758.7	30.01	762.2	33.9	1.1	89	SE	14	6.3	.....	.....	10n	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.13	739.9	29.51	749.5	33.1	0.6	94	N	.....	.....	3	10cs	0	N	.....	0.30	7.6	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.19	741.4	29.53	750.0	35.7	2.1	92	S	11	4.9	.....	.....	10n	.....	.....	0.66	16.8	Light rain...	S. Woods, M. A.
Little Glace Bay, N. S	30.13	765.3	30.17	766.3	25.4	— 3.7	88	SW	6	2.7	.....	7k	0	SW	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	29.28	743.7	29.48	748.8	26.9	— 2.8	95	Calm	0	0	.....	.....	10n	.....	.....	0.71	18.0	Light snow.	C. H. McLeod, C. E
Moose Factory, Ontario	29.70	754.4	29.74	755.4	- 8.6	—22.6	91	NW	.....	.....	2	0	1	.....	.....	0	0	Clear	J. R. Nelson.
Norwood	28.73	729.7	29.44	747.8	32.2	0.1	99	SW	3	1.3	.....	.....	10s	.....	.....	0.90	22.9	Cloudy.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.68	728.5	29.36	745.7	32.2	0.1	100	S	7	3.1	.....	.....	10n	.....	S	0.23	5.8	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	28.69	728.7	29.46	748.3	31.7	0.2	89	S	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing...	J. F. Jeffers, M. A.
Port Dover, Ontario	28.82	732.0	29.53	750.0	29.0	— 1.7	100	SW	16	7.2	.....	.....	10n	.....	.....	0.29	7.4	Light snow.	H. Morgan.
Port Stanley, Ontario	28.91	734.3	29.58	751.3	28.2	— 2.1	86	W	28	12.5	.....	.....	10n	.....	.....	0.19	4.8	Cloudy.....	M. Payne.
Quebec, Quebec	29.28	743.7	29.62	752.3	18.0	— 7.8	100	NE	.....	.....	7	.....	10n	.....	.....	0.55	14.0	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	28.96	735.6	29.44	747.8	20.4	— 6.4	84	Calm	0	0	.....	.....	10n	.....	.....	0.56	14.2	Cloudy.....	W. H. McIntyre.
St. John, N. B	29.57	751.1	29.74	755.4	31	— 0.6	94	SE	11	4.9	.....	.....	10ks	.....	.....	0.60	15.2	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	28.74	730.0	29.48	748.8	28.0	— 2.2	90	NW	17	7.6	.....	.....	10s	.....	.....	0.12	3.0	Light snow.	Miss K. Stewart.
Stratford, Ontario	28.16	715.3	29.49	749.0	-26.1	— 3.3	95	W	25.0	11.2	.....	.....	10s	.....	.....	0.10	2.5	Cloudy.....	C. J. MacGregor, M. A
Sydney, C. B	30.14	765.5	30.19	766.8	11.0	—11.7	94	Calm	0	0	.....	10cs	0	W	.....	0	0	Fair.....	T. C. Hill, C. E.
Toronto, Ontario	29.09	738.9	29.48	748.8	33.3	0.7	95	SW	24	10.7	.....	.....	10n	.....	.....	0.23	5.8	Cloudy.....	Magnetic Observatory
Windsor, N. S	29.83	757.7	29.93	760.2	29.0	— 1.7	100	E	7	3.1	.....	.....	10n	.....	.....	0	0	Fair.....	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.41	721.6	29.51	749.5	27.2	— 2.7	95	S	26	11.6	.....	.....	10s	.....	.....	0.49	12.4	Snowing.....	Professor Wolverton.
Yarmouth, N. S	29.69	754.1	29.76	755.9	38.0	3.3	90	SE	27	12.1	.....	.....	10n	.....	.....	0.03	0.8	Light rain...	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.30	769.6	21	— 6.1	86	W	.....	.....	.....	0	.....	.....	.....	0	0	Fair...	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.96	761.0	25.5	— 3.6	.....	SW	.....	.....	2	.....	n	.....	.....	0	0	Cloudy.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.34	745.2	29.57	751.1	34	1.1	100	Calm	0	0	.....	.....	10s;fg	.....	Calm	0.40	10.2	Foggy	
Alpena, Michigan	28.88	733.5	29.55	750.6	18	— 7.8	84	W	10	4.5	.....	.....	10n	.....	Calm	0.65	16.5	Light snow.	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.71	729.2	29.87	758.7	37	2.8	71	NW	8	3.6	.....	0	Sm'e	.....	Calm	0.08	2.0	Clear.	
Atlantic City, New Jersey	29.84	757.9	29.86	758.4	40	4.4	73	W	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear.	
Augusta, Georgia	29.75	755.6	29.96	761.0	42	5.6	91	Calm	0	0	.....	0	Fog	.....	Calm	0.02	0.5	Clear.	
Baltimore, Maryland	29.70	754.4	29.75	755.6	40	4.4	82	N	4	1.8	.....	2c	Sm'e	W	Calm	0.54	13.7	Fair.	
Barnegat, New Jersey	29.63	752.6	29.65	753.1	39	3.9	100	W	9	4.0	.....	0	0	.....	.....	0.33	8.4	Clear.	
Bismarck, Dakota	27.84	707.1	29.70	754.4	13	—10.6	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.54	724.9	29.82	760.0	29	— 1.7	67	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.23	691.6	30.19	766.8	35	1.7	80	NW	4	1.8	.....	0	0	.....	.....	0.25	6.3	Clear	
Boston, Massachusetts	29.33	745.0	29.48	748.8	49	9.4	100	S	5	2.2	.....	.....	Fog	.....	Calm	0.84	21.3	Foggy	
Brackettville, Texas	28.82	732.0	29.91	759.7	39	3.9	55	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.65	727.7	29.73	755.1	3	—16.1	100	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	29.89	759.2	29.94	760.5	55	12.8	100	NE	8	3.6	.....	.....	10n	.....	NE	0.85	21.6	Light rain	
Buffalo, New York	28.80	731.5	29.49	749.0	35	1.7	80	SW	20	8.9	.....	.....	10n	.....	SW	0.11	2.8	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.20	741.7	29.48	748.8	35	1.7	90	SE	1	0.4	.....	.....	10n	.....	SW	0.33	8.4	Heavy snow	
Cairo, Illinois	29.59	751.6	29.99	761.7	39	3.9	55	NW	8	3.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	29.77	756.1	29.78	756.4	53	11.7	86	NW	12	5.4	.....	1cs	5s	Calm	NW	0.11	2.8	Fair	
Cape Henry, Virginia	29.76	755.9	29.78	756.4	44	6.7	84	NW	7	...	.....	2cs	0	SW	.....	Inap.	Inap.	Clear	
Cape Lookout, N. Carolina	29.81	757.2	29.82	757.4	50	10.0	52	N	16	7.2	.....	2k	0	N	.....	0.11	2.8	Clear.	
Cape May, New Jersey	29.66	753.4	29.69	754.1	41	5.0	82	NW	14	6.3	.....	5ck	0	NW	.....	0.56	14.2	Fair	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cedar Keys, Florida	29.91	759.7	29.93	760.2	52	11.1	66	NE	8	3.6	.....	5cs	1s	N	Calm	0.07	1.8	Fair	
Charleston, South Carolina	29.82	757.4	29.87	758.7	49	9.4	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	28.98	736.1	29.81	757.2	40	4.4	65	W	3	1.3	.....	0	Fog	.....	Calm	0.37	9.4	Clear	
Chattanooga, Tennessee	29.10	739.1	29.93	760.2	34	1.1	79	SW	3	1.3	.....	0	1ks	.....	Calm	0	0	Clear.	
Cheyenne, Wyoming	23.70	602.0	29.04	752.8	27	— 2.8	64	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.06	738.1	29.76	755.9	34	1.1	70	W	8	3.6	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Cincinnati, Ohio	29.22	742.2	29.88	758.9	39	3.9	64	SW	8	3.6	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	
Cleveland, Ohio	28.94	735.1	29.67	753.6	32	0.0	79	SW	18	8.0	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Coleman City, Texas	28.16	715.3	29.90	759.4	30	— 1.1	36	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	28.93	734.3	29.78	756.4	34	1.1	79	W	16	7.2	.....	.....	10n	.....	W	0.02	0.5	Light snow	
Concho, Texas	28.03	711.9	29.76	755.9	31	— 0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.52	749.8	30.01	762.2	34	1.1	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.18	741.1	29.85	758.2	20	— 6.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	35	1.7	70	W	.....	.....	2	Haze	5s	Calm	W	0.21	0.3	Fair	
Deadwood, Dakota	25.03	635.8	.....	.....	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fair	
Decatur, Texas	28.80	731.5	29.98	761.5	47	8.3	62	S	4	1.8	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Denison, Texas	29.16	740.7	29.98	761.5	35	1.7	53	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.48	621.8	29.70	754.4	33	0.6	32	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.93	734.8	29.84	757.9	25	— 3.9	75	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Detroit, Michigan	28.93	734.8	29.61	752.1	29	— 1.7	89	W	8	3.6	.....	.....	Sm'e	.....	Calm	0	0	Clear	
Dodge City, Kansas	27.21	691.1	29.62	752.3	18	— 7.8	68	NW	11	4.9	.....	.....	10s	.....	W	0.07	1.8	Cloudy	
Dubuque, Iowa	29.10	739.1	29.83	757.7	23	— 5.0	73	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Duluth, Minnesota	29.06	738.1	29.77	756.1	18	— 7.8	84	NW	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
Eagle Pass, Texas	29.17	740.9	29.91	759.7	50	10.0	58	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Eastport, Maine	29.62	752.3	29.69	754.1	38	3.3	90	SE	29	13.0	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10n	.....	SE	0.10	2.5	Light rain	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.84	732.5	29.55	750.6	33	0.6	89	W	22	9.8	.....	.....	10n	.....	SW	0.44	11.2	Light snow	
Escanaba, Michigan	29.03	737.3	29.70	754.4	23	— 5.0	60	NW	11	4.9	.....	.....	10s	.....	NW	0.17	4.3	Cloudy	
Florence, Arizona	28.41	721.6	30.01	762.2	36	2.2	71	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.61	701.3	29.52	749.8	17	— 8.3	83	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair	
Fort Custer, Montana	26.58	675.1	.....	.....	32	0.0	89	SW	.....	.....	1	0	5s	.....	Calm	0	0	Fair	
Fort Davis, Texas	25.04	636.0	30.00	762.0	28	— 2.2	77	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.38	746.2	29.95	760.7	28	— 2.2	66	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.12	638.0	29.92	760.0	35	1.7	21	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.66	728.0	29.98	761.5	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	26.99	685.5	.....	.....	30	— 1.1	100	SW	4	1.8	.....	.....	10n	.....	N	0.03	0.8	Light snow.	
Fort McKavett, Texas	27.77	705.4	29.78	756.4	31	— 0.6	38	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.84	757.9	33	0.6	51	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.79	705.8	.....	.....	8	—13.3	89	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	42	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.16	715.3	29.77	756.1	35	1.7	70	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.99	761.7	30.03	762.7	51	10.6	40	E	16	7.2	.....	.....	10s	.....	E.	0	0	Cloudy	
Graham, Texas	28.87	733.3	29.98	761.5	25	— 3.9	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.05	737.9	29.72	754.9	30	— 1.1	89	NW	18	8.0	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.98	736.1	29.95	760.7	32	0.0	60	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.01	736.8	29.80	756.9	36	2.2	71	SW	6	2.7	.....	.....	10s	.....	S	0.05	1.3	Cloudy	
Indianola, Texas	30.00	762.0	30.03	762.7	51	10.6	46	NE	26	11.6	.....	5c	0	W	.....	0	0	Fair	
Jacksboro, Texas	28.77	730.7	29.94	760.5	35	1.7	70	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.90	759.4	29.93	760.2	52	11.1	73	NW	2	0.9	.....	5cs	0	Calm	.....	0.31	7.9	Fair	
Keokuk, Iowa	29.19	741.4	29.82	757.4	29	— 1.7	78	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.	
Key West, Florida	29.91	759.7	29.94	760.5	71	21.7	85	S	3	1.3	.....	5k	0	Calm	.....	0.04	1.0	Fair	
Kittyhawk, North Carolina	29.78	756.4	29.80	756.9	46	7.8	92	NE	18	8.0	.....	8cs	0	W	.....	0.04	1.0	Fair	
Knoxville, Tennessee	28.89	733.8	29.92	760.0	35.5	1.9	80	W	1	0.4	.....	2k	8ks	Calm	Calm	Inap.	Inap.	Cloudy	
La Crosse, Wisconsin	29.03	737.3	29.79	756.7	26	— 3.3	75	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
La Mesilla, New Mexico	25.96	659.4	30.10	764.5	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.57	751.1	29.92	760.0	55	12.8	81	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Leavenworth, Kansas	28.97	735.8	29.84	757.9	29	— 1.7	67	S	4	1.8	.....	0	0	.....	.....	Ina	Inap.	Clear	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.66	753.4	30.04	763.0	32	0.0	89	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.60	751.8	29.95	760.7	44.0	6.7	68	NE	3	1.3	.....	0	1s	.....	Calm	0	0	Clear.	
Louisville, Kentucky	29.32	744.7	29.88	758.9	40	4.4	65	SW	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.11	739.4	29.80	756.9	40	4.4	56	W	4	1.8	.....	0	0	.....	.....	0.28	6.6	Clear.	
Madison, Wisconsin	28.73	729.7	29.74	755.4	26	— 3.3	88	W	8	3.6	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Marquette, Michigan	28.99	736.3	29.72	754.9	23	— 5.0	100	NW	8	3.6	.....	.....	10n	.....	Calm	0.10	2.5	Light snow.	
Mason, Texas	28.33	719.6	30.18	766.6	30	— 1.1	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.05	753.1	30.01	766.2	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.00	736.6	29.76	755.9	26	— 3.3	88	NW	12	5.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Mobile, Alabama	29.98	761.5	30.02	762.5	41	5.0	74	N	2	0.9	.....	Haze	8s	.....	W	0	0	Cloudy	
Montgomery, Alabama	29.76	755.9	30.00	762.0	38	3.3	71	NW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.78	731.0	29.77	756.1	42	5.6	58	SW	12	5.4	.....	.....	10ks	.....	SW	0.14	3.6	Cloudy	
Mt. Washington, N. H.	23.22	589.8	29.58	751.3	31	— 0.6	100	SW	54	24.1	.....	.....	10n	.....	SW	0.23	5.8	Sleeting	
Nashville, Tennessee	29.41	747.0	29.96	761.0	40	4.4	65	N	1	0.4	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy	
New Haven, Connecticut	29.43	747.5	29.54	750.3	43	6.1	92	W	2	0.9	.....	5cs	5s	W	W	1.24	31.5	Clearing	
New London, Connecticut	29.46	748.3	29.51	749.5	46	7.8	92	NW	11	4.9	.....	0	3ks;s	.....	WNW	0.66	16.8	Clearing	
New Orleans, Louisiana	29.99	761.7	30.05	763.3	54	12.2	55	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	29.46	748.3	29.50	749.3	47	8.3	100	SW	8	3.6	.....	.. ..	Fog	.....	.....	0.25	6.3	Misty	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.46	748.3	29.63	752.6	41	5.0	83	W	5	2.2	.....	2ck	Haze	Calm	Calm	0.40	10.2	Fair	
Norfolk, Virginia	29.73	755.1	29.79	756.7	47	8.3	82	N	2	0.9	.....	0	8ks	.....	Calm	0	0	Fair	
North Platte, Nebraska	26.84	681.7	29.53	750.0	18	- 7.8	76	NW	7	3.1	.....	2cs	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	40.0	4.4	82	S	4	1.8	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	
Omaha, Nebraska	28.60	726.4	29.74	755.4	24	— 4.4	74	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.22	742.2	29.54	750.3	37	2.8	85	S	5	2.2	.....	.....	10s	.....	S	0.50	12.7	Cloudy	
Pembina, Dakota	28.71	729.2	29.63	752.6	— 2	—18.9	100	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	29.99	761.7	30.02	762.5	48	6.1	59	N	6	2.7	.....	9cs	Haze	SW	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	29.63	752.6	29.68	753.9	39	3.9	82	W	6	2.7	.....	0	Fog	.....	Calm	0.47	11.9	Clear	
Phœnix, Arizona	28.75	730.2	30.00	777.2	42	5.6	58	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.32	439.9	29.54	750.3	— 3	—19.4	66	NW	34	15.2	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Pilot Point, Texas	29.19	741.4	30.06	763.5	31	— 0.6	68	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.00	609.6	29.77	756.1	31	— 0.6	69	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.89	733.8	29.71	754.6	36	2.2	80	W	20	8.9	.....	.....	10s	....	W	0.13	3.3	Cloudy	
Port Huron, Michigan	28.88	733.5	29.56	750.8	25	— 3.9	87	NW	12	5.4	.....	.....	10ks	.....	NW	0.15	3.8	Cloudy	
Portland, Maine	29.43	747.5	29.48	748.8	38	3.3	100	SE	4	1.8	.....	.....	10n	.....	Calm	0.92	23.4	Light rain	
Portland, Oregon	30.13	765.3	30.21	767.3	40	4.4	91	S	1	0.4	.....	.....	10s	.....	.....	0.03	0.8	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	79	NW	18	8.0	.....	0	0	.....	.....	0.18	4.6	Clear	
Prescott, Arizona	24.08	626.9	30.04	763.0	28	— 2.2	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.88	758.9	29.90	759.4	69	20.6	90	SW	6	2.7	.....	0	8ks	.....	SW	0.86	9.1	Fair	
Red Bluff, California	29.81	757.2	30.18	766.6	42	5.6	78	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.80	756.9	30.02	762.5	56	13.3	87	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	28.90	734.0	29.52	749.8	38	3.3	91	W	12	5.4	.....	.....	10s	.....	W	0.10	2.5	Cloudy	
Roseburg, Oregon	29.68	753.9	30.27	768.8	43	6.1	96	SE	4	1.8	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Sacramento, California	30.06	763.5	30.13	765.3	44	6.7	92	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.93	760.2	29	— 1.7	78	SW	9	4.0	.....	0	0	.....	.....	Inap.	Inap	Clear	
St. Paul, Minnesota	28.80	733.8	29.78	756.4	9	—12.8	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	32	0.0	89	NW	5	2.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
San Antonio, Texas	29.32	744.7	29.93	760.2	41	5.0	49	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.89	759.2	29.97	761.2	50	10.0	65	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.01	736.8	29.69	754.1	34	1.1	79	SW	26	11.6	.....	.....	10ks	.....	W	0.01	0.3	Cloudy	
Sandy Hook, New Jersey	29.90	751.8	29.94	752.8	40	4.4	82	W	17	7.6	.....	0	0	.....	.....	0.43	10.9	Clear	
San Francisco, California	30.10	764.5	30.16	766.1	47	8.3	92	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.08	586.2	29.62	752.3	16	— 8.9	49	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.83	757.7	29.92	760.0	49	9.4	51	W	6	2.7	.....	8cs	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	41	5.0	57	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.82	757.4	29.86	758.4	50	10.0	86	W	4	1.8	.....	0	1ks	.....	Calm	0.02	0.5	Clear	
Socorro, New Mexico	25.26	641.6	29.33	745.0	27	— 2.8	64	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.21	741.9	29.90	759.4	34	1.1	79	W	8	3.6	.....	0	0	.....	.....	0.09	2.3	Clear	
Springfield, Massachusetts	29.40	746.7	29.54	750.3	37	2.8	90	NW	2	0.9	.....	.....	10s	.....	W	1.20	30.5	Clearing	
Stockton, Texas	27.02	686.3	30.02	762.5	32	0.0	30	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.42	747.3	29.47	748.5	44	6.7	92	W	16	7.2	.....	0	5s	.....	W	0.17	4.3	Fair	
Toledo, Ohio	28.97	735.8	29.66	753.4	33	0.6	79	SW	18	8.0	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Tucson, Arizona	27.46	697.5	30.02	762.5	36	2.2	45	S	3	1.3	.....	0	2s	.....	S	0	0	Fair	
Umatilla, Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.70	756.7	30.06	763.5	37	2.8	81	NE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.04	610.6	29.52	749.8	26	— 3.3	75	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.69	754.1	30.07	763.8	39	3.9	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.64	752.8	29.76	755.9	37	2.8	90	NW	3	1.3	.....	1k	0	NW	.....	0.75	19.1	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.76	755.9	29.84	757.9	48	8.9	78	N	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	29	— 1.7	78	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.47	748.5	29.50	749.3	47	8.3	92	S	16	7.2	.....	.....	10s;fg	.....	.....	0.20	5.1	Cloudy	
Yankton, Dakota	28.42	721.9	29.79	756.7	10	— 7.2	69	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.72	754.9	29.87	758.7	47	8.3	48	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.87	758.7	29.92	760.0	70	21.1	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	72	22.2	86	Calm	0	0	.....	0	2cs	.....	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	75	23.9	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	78	25.6	86	E	.....	.....	2	.....	8ks	.....	.....	0.050	1.27	Cloudy	O. J. Hering.
PuertoBorrio, U.S.Colombia	29.32	744.7	29.87	758.7	78	25.6	89	Calm	.....	.....	0	.....	8s	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.00	762.0	30.03	762.7	73	22.8	81	NNE	2.4	2.1	.....	0	8s	.....	.....	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.82	757.4	29.88	758.9	— 3.0	—19.4	83	SE	14	6.3	.....	4k	6s	SE	SE	.....	.....	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,833 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bracketville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,260 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.34 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	30.00‡	762.0‡			46	7.8	84	NNE	8	3.6			8		SW					Threatening	
Navy Yard, Portsmouth, N.H	29.71‡	754.6‡			42	5.6	91	SW	1	0.4			10							Overcast	
Alaska, Coquimbo, Chili	29.87‡	758.7‡			63	17.2	83	Calm			.0		10							D. clouds	
Colorado, New York, N. Y.	29.54‡	750.3‡			41	5.0	100	WSW	1	0.4			2		Calm	0.43	10.9			Clear	
Constitution, Fredericksted, Santa Cruz, W. I.	30.04‡	763.0‡			75	23.9	56	ENE			3		1		ENE					Clear.	
Enterprise. Piraeus, Greece	30.31‡	769.9‡			42	5.6	58	NNW			3		1		N			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.79‡	756.7‡			47	8.3	85	N	3	1.3			8		W	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.12‡	765.0‡			45	7.2	92	Calm	0	0			0			0	0			Foggy	
Kearsarge, Key West, Fla	29.96‡	761.0‡			73	22.6	85	ESE			0–1		5		SE			Smooth		Fair	
Lackawana, N. 35° 00′, W. 147° 50′	30.23‡	767.8‡			63	17.2	100	SE			3		10		SE			Smooth	SE	Cloudy	
Marion, S. 7° 15′, W. 34° 17′	29.87‡	758.7‡			82	27.8	71	ESE			3		0			0	0	Smooth	ESE	Clear	
Michigan, Erie, Pa	29.67‡	753.6‡			34	1.1	70	W			5		10		W					Snowing	
Monocacy, Shanghai, China	30.62‡	777.7‡			31	— 0.6	89	NNW			2		8		NW					Cloudy	
New Hampshire, Port Royal, S. C.	29.90‡	759.4‡			49	9.4	78	NW	8	3.6			5		C;W	0	0			Fair	
Nipsic, La Guayra, Venezuela, S. A.	29.92‡	760.0‡			76	24.4	91	ENE			1		8		ENE			Long	ENE	Misty	
Onward, Callao, Peru	29.87‡	758.7‡			67	19.4	95	SE			2		10					Mod'ate smooth	W	Foggy	
Palos, Tientsin, China	30.65‡	778.5‡			25	— 3.9	100	W			0–1		2							Fair	
Passaic, Washington, D. C.	29.73‡	755.1‡			39	3.9	82	SW			1		10		NE					Cloudy	
Pensacola, Callao, Peru	29.82‡	757.4‡			67	19.4	95	SE			1		10					Smooth		Foggy	
Powhatan, Navy Yard, Brooklyn, N.Y.	29.64‡	752.8‡			44	6.7	76	WNW			2		2		W	Light	Light			Fair	
Quinnebaug, Leghorn, Italy	30.14‡	765.5‡			41	5.0	82	E			4		10		E					Snowing	
Ranger. N. 34° 50′, W. 148° 40′	30.19‡	766.8‡			62	16.7	94	S			3		10		SSW			Smooth		Cloudy	
Richmond, Hong-Kong, China	30.29‡	769.4‡			54	12.2	74	NE			3		10		SE					Cloudy	
Rio Bravo, Brownsville, Texas	30.06‡	763.5‡			54	12.2	100	N	4	1.8			10		N	0.85	21.6			Cloudy	
Santee, Annapolis, Md	29.76‡	755.9‡			38	3.3	100	W			1		0			0.17	4.3			Clear	
Shenandoah, Montevideo, Uruguay	30.01‡	762.2‡			72	22.2	80	E			3		0					Smooth		Clear.	
St. Louis, League Island, Pa	29.71‡	754.6‡			37	2.8	90	NW	7	3.1			0			0.425	10.80			Clear	
Swatara, N. 42° 14′, W. 66° 12′	29.68‡	753.9‡			46	7.8	100	SE			6		10		SE			Mod'ate	SE	Drizzling	
Tennessee, Hampton Roads, Va.	29.76‡	755.9‡			46	7.8	84	N	4	1.8			3		N	0	0			D. clouds	
Trenton, Port Mahon, Minorca, Med	30.08‡	764.0‡						NW			1		2			0	0			Fair	
Tuscarora, La Union, S. Salvador.	29.92‡	760.0‡			76	24.4	77	Calm			0		10		Calm			Smooth		Cloudy	
Wabash, Boston, Mass	29.43‡	747.5‡			48	8.9	100	S	9	4.0			10			0.05	1.3			Light rain	
Wyoming, Toulon, France	30.02‡	762.5‡			40	4.4	73	NNE			2–4		10		NE			Smooth	NE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian, N. 45° 09', W. 57° 30'		30.18‡	765.3‡	30	— 1.1	78	SSW			3		8		W		Mod'ate	W	Fair	R. Carruthers.
S. S. Hibernian, F. Archer, N. 51° 43', W. 12°20'		30.49‡	774.4‡	44	6.7		SE			5		10		SE		Smooth	SE	Cloudy	John France.
S. S. Moravian, J. Graham																			A. Christie & F. W. Erskine
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			
S. S. Sarmatian, A. D. Air, Moville, Ireland		30.45‡	773.4‡	32	0.0		SSW			3		10		SSW		Smooth		Foggy	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent, N. 41° 16', W. 66° 30'		30.02‡	762.5‡	46	7.8		SE			7		9		SW	Mod'ate	Mod'ate	SE	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 44° 32', W. 38° 51'		30.21‡	767.3‡	52.0	11.1	73	NW			4		5		WNW	2 h'rs	Mod'ate	WNW	Cloudy?	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 39', W. 49° 19'		29.91‡	759.7‡				NE			6		8		NE		Long	NE	Cloudy	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 45', W. 151° 42'...†	*	30.15‡	765.8‡	64	17.8	89	S			2		5		S		Smooth		Fair	D. A. Joyce.
S. S. Gaelic, Davidson, N. 34° 43', E. 180° 29'...†		30.20‡	767.1‡	46	7.8		NNE			5		k		N	0	Smooth	NE	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, N. 45° 58′, W. 125° 00′		30.08‡	764.0‡	50	10.0		SSW			1		10				Heavy	W	Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			R. Thompson & J. Anderson.
S. S. City of Tokio, J. Maury, N. 26° 50′, E. 122° 00′		30.22‡	767.6‡	55	12.8	81	NW			5		10			0	Mod'ate	NW	Squally	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Zealandia, R. C. Ghest, N. 26° 36′, W. 148° 59′		30.16‡	766.1‡				NE			6				E		High	NE	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson, N. 48° 33′, W. 32° 30′		29.89‡	757.4‡	55	12.8		S	32	14.3			5		S	0	Mod'ate	SSW	Fair	
S. S. Nederland, S. Stokes																			J. Farmer & W. Apetan.
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 45° 03′, W. 45° 43′		30.25‡	768.3‡	38	3.3		NNW			5				N	0	Mod'at.	NW	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 40° 56′, E. 12° 30′	*	30.06‡	763.6‡	56	13.3		WSW			6		8		WSW		Mod'ate	WSW	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.	†	30.14‡	765.5‡	77	25.0		ENE			5		2		E	0	Smooth	ESE	Clear.	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

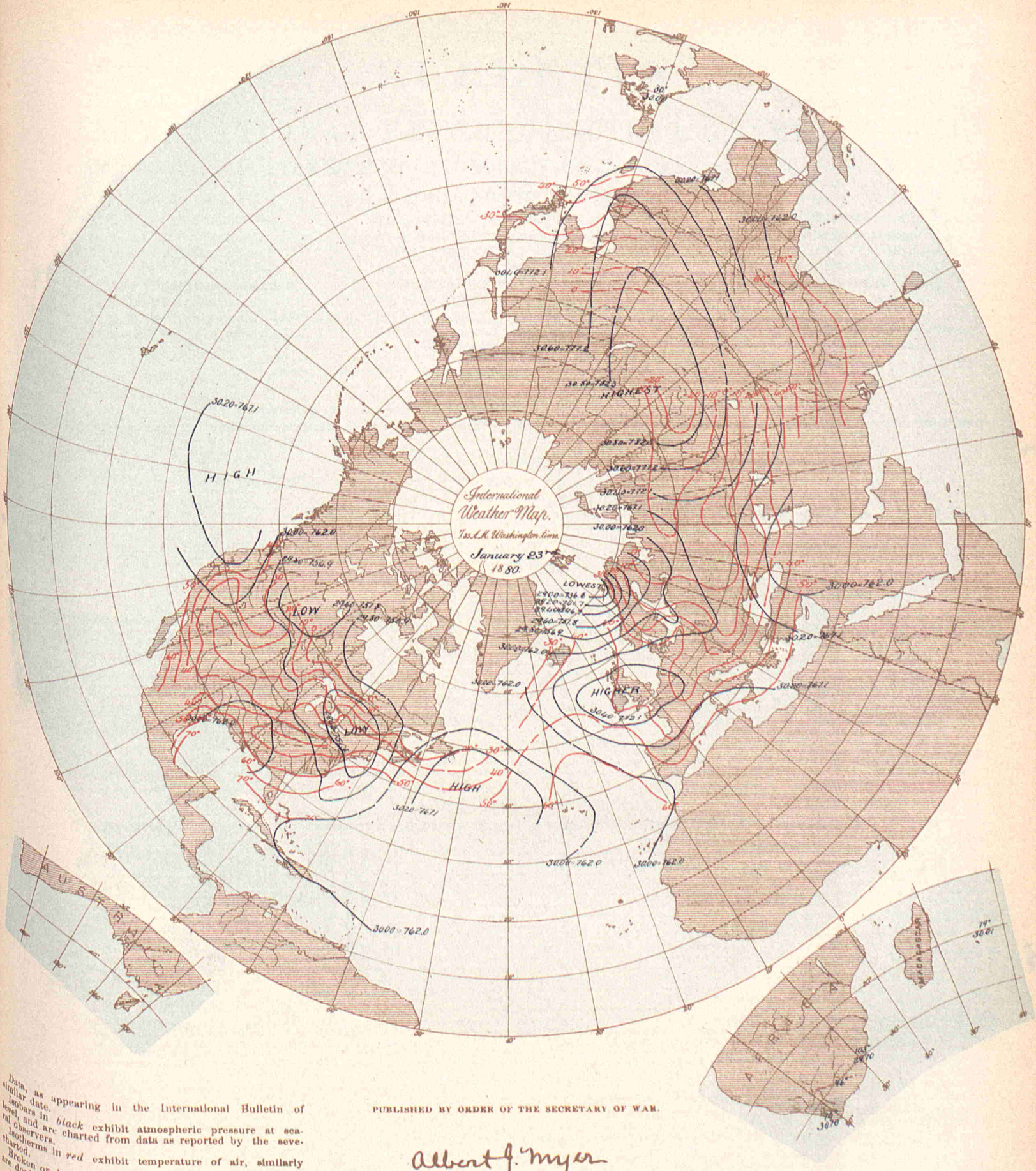
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 24, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.04	762.9	.....	.....	.....	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	30.03	762.8	56.1	13.4	79	?	.....	.....	2	.....	9	.....	.....	2.067	52.5	Covered.	Kesxuche.
Algiers	.....	.....	30.02	762.6	49.6	9.8	84	NNE	.....	.....	5	.....	9	.....	.....	0.709	13.0	Covered.	Tourillere.
La Calle	.....	.....	29.97	761.3	58.8	14 9	54	WNW	.....	.....	2	.....	7	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.06	763.5	46.0	7.8	66	W	.....	.....	3	.....	8	.....	.....	0.039	1.10	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Brugniaux.
Laghouat	.....	.....	30.06	763.4	54.7	12.6	31	E	.....	.....	4	.....	4	.....	.....	0	0	Cloudy.....	Bertrand.
Biskra	.....	.....	30.00	761.9	50.0	10.0	92	WNW	.....	.....	4	.....	9	.....	.....	0	0	Covered	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.85	758.1	30.44	773.2	25.2	— 3.8	82	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.44	747.7	30.26	768.5	25.9	— 3.4	87	WSW	10.3	4.6	.....	.....	8	.....	.....	0.020	0.5	.....	Dr. Wierzbicki.
Eperies	29.32	744.8	30.29	769.4	13.3	-10.4	86	Calm	.....	.....	0	.....	8cs	.....	.....	.....	.....	.....	Julius Mikolik.
Gratz	29.04	737.6	30.38	771.7	27.1	— 2.7	68	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.78	731.1	30.35	771.0	14.0	—10.0	91	WNW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.97	735.8	30.42	772.6	23.2	— 4.9	98	WNW	.....	.....	1	.....	10	.....	.....	0.118	3.0	.....	Prof. C. Wagner.
Lemberg	29.02	737.2	30.08	763 9	25.7	— 3.5	98	NW	.....	.....	3	.....	10	.....	.....	0.126	3.2	.....	Dr. T. Stanecki.
Pola	30.24	768.1	30.36	771.1	41.9	5.5	34	E	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.80	750.2	30.40	772.2	14.7	— 9.6	87	SW	.....	.....	2	.....	10	.....	.....	0.150	3.8	.....	Pet. Pancsics, S. J.
Szegedin	30.05	763.3	30.35	770.9	27.7	— 2.4	87	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.20	768.5	30.30	771.2	41.4	5.2	31	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	P. Busin.
Vienna	29.60	751.9	30.34	770.5	29.8	— 1.2	71	W	.....	.....	2	.....	1	.....	.....	0.016	0.4	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.24	768.0	30.45	773.4	30.2	— 1.0	69	NNE	.....	.....	0	.....	0	.....	.....	0	0	.....	Royal Observatory
Furnes	30.43	772.9	30.45	773.5	34.2	1.2	81	SSE	.....	.....	1	.....	8	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.34	770.6	30.47	773.8	31.3	— 0.4	72	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C. as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.17	766.3	30.27	768.8	37.0	2.8	.....	SSW	6	2.7	.....	.....	1	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	30.37	771.4	30.39	771.9	39	3.9	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	G. Carrick.
Armagh, (Observatory)	30.07	763.8	30.32	770.1	34.2	1.2	.....	S	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.36	771.1	34.4	1.3	.....	SSE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.80	756.9	30.34	770.6	31.7	— 0.2	.....	NNE	3	1.3	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.94	760.5	30.34	770.6	36.3	2.4	69	SE	.....	.....	2	.....	6	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	76.5	24.7	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.33	770.4	30.43	772.9	34.0	1.1	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.42	772.7	34.0	1.1	.....	N	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	30.34	770.6	30.48	774.2	34.2	1.2	.....	Calm	.....	.....	0	.....	9k	.....	.....	.....	.....	Overcast	W. Gibson, Sapper, R.E.
Donaghadee	30.28	769.1	30.32	770.1	34	1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.41	772.4	30.44	773.2	35	1.7	.....	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth (Observatory)	30.12	765.0	30.36	771.1	40.1	4.5	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.70	703.6	29.92	760.0	69.5	20.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H. Coombs, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.11	764.8	39	3.9	.....	SSE	.....	.....	4	.....	10	.....	.....	0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.09	764.3	30.29	769.4	37.8	3.2	.....	S	.....	.....	4	.....	3	.....	.....	.....	.....	Misty	D. G. Maclean.
Great Yarmouth	30.41	772.4	30.41	772.4	37	2.8	.....	WNW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.25	768.3	30.43	772.9	34.7	1.5	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	30.16	766.1	30.39	771.9	33	0.6	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.46	773.7	30.59	777.0	39	3.9	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Very gloomy	M. P. Moyle.
Holyhead	30.28	769.1	30.36	771.1	37	2.8	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	Misty	John Tilston.
Jersey	30.12	765.0	30.44	773.2	33.0	0.6	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew (Observatory)	30.39	771.9	30.43	772.9	34.3	1.3	.....	N	2	0.9	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	30.16	766.1	30.43	772.9	34.6	1.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.91‡	759.77	29.99‡	761.77	56.6	13.7	.....	E	.....	.....	3	0ck	.....	.....	.....	.....	.....	D. clouds	A. King.
Nairn	30.12	765.0	30.22	767.6	40	4.4	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.00	762.0	69.0	20.6	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.21	767.3	30.41	772.4	33.8	1.0	.....	SSW	.....	.....	2	.....	10k	.....	E	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.85	758.2	30.41	772.4	31.5	— 0.3	.....	SSW	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.19	766.8	30.44	773.2	33	0.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.30	769.6	30.38	771.6	35.2	1.8	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	John Merrifield.
*Roche's Point	30.17	766.3	30.24	768.1	41	5.0	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	30.18	766.6	30.36	771.1	37	2.8	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.22	767.6	43.2	6.2	.....	W	4	1.8	.....	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.20	767.1	30.27	768.8	31.0	— 0.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Serg't W. H. Lyne.
Sheffield	30.10	764.5	30.39	771.9	36.9	2.7	.....	N	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.21	767.3	30.24	768.1	32.9	0.5	81	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Rev. F. Redford, A.M.
Stonyhurst (Observatory)	.....	.....	30.35	770.9	32.5	0.3	.....	S	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straifield, Turgiss	.....	.....	.....	.....	33.6	0.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. C. H. Griffith, F.M.S.
Truro (Royal Institution)	30.26	768.6	30.35	770.9	39	3.9	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia (Observatory)	30.11	764.8	30.14	765.5	44.1	6.7	.....	SSE	34	15.2	.....	.....	4	.....	.....	.....	.....	Drizzling	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.04	763.0	30.08	764.0	74.2	22.4	62	S	26.3	11.8	.....	0	1	.....	.....	0	.....	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.54	648.7	.....	.....	89	31.7	.....	SE	.....	.....	.....	2k	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.76	679.7	.....	.....	69	20.6	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc't'l'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.79	756.7	29.97	761.3	80.2	26.8	58	E	16.0	7.2	.....	4	2	WNW	E	0.01	0.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.94	760.5	30.03	762.7	60.0	15.6	62	SW	18	8.0	.....	.....	4	.....	.....	0	0	Squally	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.11	764.8	42	5.6	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.09	764.3	.....	.....	.....	SW	.....	.....	4	4	7	S	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.																Sea or swell Height scale 0–9	Sea or swell Direction from—		
H. M. S. Alert, Tilly Bay, Patagonia	.....	.....	29.42‡	747.3‡	47	8.3	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds	Capt. A. J. Brown
City of Agra, S. 55° 31′, W. 97° 42′	.....	.....	29.66‡	753.4‡	47	8.3	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	Capt. Thos. Young.
City of Cashmere, S. 45° 27′, W. 42° 55′	.....	.....	29.96‡	761.0‡	53	11.7	.....	NNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 38° 40′, W. 29° 55′	.....	.....	30.37‡	771.4‡	59.3	15.2	.....	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
Barque Dochra, S. 46° 56′ W. 119° 40′	.....	.....	30.01‡	762.2‡	56.5	13.6	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	Capt. N. Spalding.
Barque Fedalma, N. 50° 05′, W. 17° 05′	.....	.....	29.78	756.4	55	12.8	.....	SE	.....	.....	6	.....	6	.....	.....	4	SSE	D. clouds	Capt. H. L. Fox.
Bqte Fylde, N. 44° 30′, W. 29° 10′	.....	.....	30.26	768.6	56	13.3	.....	WNW	.....	.....	6	.....	9	.....	.....	7	WNW	Overcast	Capt. L. C. Dart.
S. S. German, East London, Cape Colony	.....	.....	30.08‡	764.0‡	70	21.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Capt. O. D. Coxwell.
S. S. Richmond, N. 21° 56′, W. 73° 41′	.....	.....	30.02	762.5	77	25.0	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 1° 12′, E. 84° 23′	.....	.....	29.91‡	759.7‡	81.1	27.3	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 37° 00′, E. 1° 25′	.....	.....	29.99‡	761.7‡	52.5	11.4	.....	NNE	.....	.....	6	.....	10	.....	.....	.....	.....	Showery	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.17	664.7	29.89	759.2	65.3	18.5	88	SE	.....	.....	3	1ck	.....	.....	.....	Inap.	Inap.	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen,

Copenhagen	30.00	761.9	30.04	763.1	36.5	2.5	85	NW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Faröe	30.17	766.3	30.19	766.8	37.9	3.3	95	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.44	747.7	29.48	748.8	43.5	6.4	76	S	.....	.....	7	.....	8	.....	.....	.....	.....	.....	
Thorshavn (Faröe)	30.02	762.5	30.06	763.4	43.5	6.4	75	S	.....	.....	2	.....	7	.....	.....	.....	.....	Raining.	
Vestervig	30.02	762.4	30.13	765.2	37.2	2.9	73	NW	.....	.....	6	.....	1	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.87	758.6	30.42	772.6	32.9	0.5	81	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.34	770.6	30.46	773.6	34.9	1.6	71	E	.....	.....	1	.....	5	.....	S	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	30.17	766.4	30.45	773.4	32.0	0.0	93	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Klein, Commandant.
Avignon, Normal School	30.22	767.6	30.30	769.6	37.9	3.3	47	N	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.83	757.6	30.43	773.0	21.2	— 6.0	.....	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.16	766.0	30.44	773.2	33.6	0.9	79	ENE	.....	.....	1	.....	8	.....	ENE	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.49	749.1	30.47	773.8	22.1	— 5.5	.....	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.07	763.6	30.26	768.6	34.9	1.6	78	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.50	749.3	30.42	772.6	24.1	— 4.4	100	SE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Marlot, Director.
Bourges, Normal School	29.84	757.8	30.43	773.0	26.2	— 3.2	94	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.15	765.8	30.39	772.0	35.2	1.8	74	ESE	.....	.....	2	.....	10	.....	SE	0	0	.....	Ch. de Kermaree, Dir
Caen, Normal School	30.34	770.7	30.43	772.8	34.0	1.1	85	NE	.....	.....	1–2	.....	10	.....	NNW	0	0	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.78	756.4	30.21	767.4	43.0	6.1	42	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.07	763.8	30.41	772.4	30.9	— 0.6	.....	SE	.....	.....	1	.....	5	SE	SE	.....	.....	Cloudy	Jadot, Director
Chartres, Normal School	29.76	756.0	30.30	771.1	37.6	3.1	66	E	.....	.....	2	.....	10	.....	NW	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.91	734.2	30.35	770.9	29.5	— 1.4	72	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.49	749.1	30.42	772.6	26.8	— 2.9	92	ENE	.....	.....	1	.....	5	ENE	ENE	0	0	Foggy	Dr. Coullet, Director.
Commune de Gréasque*	29.09	738.8	30.23	767.8	41.7	5.4	75	NE	.....	.....	1	.....	2	.....	SE	0.631	0.8	.....	L. Kina, Director.
Grenoble, Normal School	29.60	751.8	30.43	773.0	28.4	— 4.8	.....	E	.....	.....	1	.....	en	NW	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.1	30.39	771.8	35.6	2.0	85	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Moulliot, Director.
Le Mans, Normal School	30.08	764.0	30.41	772.3	33.8	1	93	ENE	.....	.....	2	.....	8	.....	ESE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.43	747.6	30.39	772.0	23.2	— 4.9	65	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.29	769.4	30.40	772.2	34.9	1.6	78	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.73	755.1	30.39	772.0	25.5	— 3.6	77	ENE	.....	.....	1	.....	10	.....	.....	0	0	Heavy mist	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.93	760.3	30.21	767.3	47.7	8.7	60	NE	.....	.....	1–2	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.31	744.4	30.43	773.0	25.5	— 3.6	95	NE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	24.82	630.3	30.13	765.3	30.7	— 0.7	92	E	14.1	6.3	.....	.....	0	.....	.....	0	0	.....	M. Cave
Nice	30.19	766.7	30.22	767.5	47.8	8.8	61	E	.....	.....	7	.....	1	E	E	0	0	Clear	Capt. Boissière, Director.
Nîmes, Normal School	30.07	763.6	30.28	769.1	37.6	3.1	66	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.12	765.1	.....	.....	34.7	1.5	66	ENE	.....	.....	2	.....	10	.....	NE	0	0	.....	Marié Davy, Director.
Perpignan	30.15	765.7	30.26	768.6	42.8	6.0	37	SE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.42	569.5	.....	.....	24.4	— 4.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Privas, Normal School	29.23	742.6	30.37	771.5	28.4	— 2	.....	E	.....	.....	1	.....	.....	NE	NE	0	0	Misty	M. Tallieu
Puy de Dome (Summ't) Obs	25.10	739.7	.....	.....	24.3	— 4.3	47	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Allurd, Director.
Rochefort, Naval Obs'y	30.28	769.1	30.31	769.9	35.6	2.0	84	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.34	770.6	30.43	772.8	36.0	2.2	53	NE	.....	.....	1	.....	10	.....	SE	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.35	770.9	30.38	771.7	34.2	1.2	69	SE	.....	.....	2	.....	8	SE	SE	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.24	768.2	30.41	772.4	34.9	1.6	07	NE	.....	.....	2	.....	10	.....	ESE	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.13	740.0	30.26	768.7	38.3	3.5	55	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.55	750.6	30.28	769.1	33.6	0.9	68	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	B. Baillaud, Dir.
Tours, Normal School	30.16	766.1	30.36	771.1	32.0	0.0	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. de Tastes.
Versailles, Observatory	29.89	759.2	30.39	771.8	33.8	1.0	.....	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Bergny, Director
Villefranche-sur-Saone, N.S	29.64	752.9	30.41	772.5	25.7	— 3.5	98	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchésl
Zi-Ka-Wei (near Shanghai)	30.46	773.7	30.49	774.4	37.2	2.9	85	NNE	0.5	2.9	.....	10ck	.....	W	.....	0	0	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, bat otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.52	749.7	30.39	771.9	18.9 — 7.3		83	NW			4		4cs			0	0		Prof. Dr. Hoh.
Berlin	30.08	764.0	30.27	768.7	30.2 — 1.0		90	NW			3		10					Rain & snow	Prof. Dr. Arndt.
Breslau	29.69	754.1	30.23	767.7	26.6 — 3.0		89	W			6		10			0.027	0.68		Royal University Observ'y.
Carlsruhe	29.96	760.9	30.41	772.5	31.6 — 0.2		81	NE			2		9	NE		0	0		Albert Senz.
Cassel	29.81	757.2	30.43	772.8	15.8 — 9.0		81	NNW			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.15	765.8	30.54	775.7	26.1 — 3.3		86	NE			1		4			0	0		Physical Society.
Friedrichshafen	28.88	733.5	30.41	772.5	26.6 — 3.0		64	E			4		10	NE		0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.20	767.1	30.27	768.9	33.8 1.0		96	WNW			4		10			0	0	Foggy	Dr. Reinhold Kleeman.
Kiel	30.10	764.4	30.11	764.8	37.0 2.8		96	W			2		10			0.017	0.44		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.4	29.83	757.6	31.5 — 0.3		90	W			4		10			0.047	1.2	Snowing	Prof. E. Luther.
Köslin			30.00	762.0	34.0 1.1			N			2		4			0	0		H. Müller.
Leipsic Observatory	29.94	760.5	30.39	771.9	26.6 — 3.0		94	SW			2		10			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.08	764.1	30.31	769.9	31.3 — 0.4		86	W			5		10ks	NW				Snowy	Dr. Assmann.
Memel	29.83	757.7	29.88	758.9	33 6 0.9		82	NNW			5		10k						Reinbrecht & Issermann.
Munich (München)	28.49	723.6	30.37	771.4	23.5 — 4.7		85	N			1		8			0	0		Dr. C. Lang.
Neufahrwasser	29.90	759.4	29.91	759.8	34.7 1.5		87	NW			3		7			0	0		A. Lothes.
Neustadt (Palatinate)	29.87	758.6	30.40	772.1	30.9 — 0.6			N			1		1	E		0	0		Reallehrer Dicknether.
Posen	29.80	757.0	30.11	764.8	28.0 — 2.2		92	SW			8		10			0.020	0.5		Prof. Dr. Magener.
Strassburg (in Alsace)	29.85	758.2	30.45	773.3	27.0 — 2.8		100	Calm			0		3			0	0		Imp. University Observatory.
Stuttgart	29.40	746.7	30.41	772.4	29.7 — 1.3		76	N					10			0	0		Prof. Dr. Schoder.
Thorn	29.88	758.9	30.07	763.7	29.8 — 1.2		87	W			4		10			0.009	0.23		Dr. Cunerth.
Weissenburg (Bavaria)	28.84	732.6	30.44	773.1	28.6 — 1.9		90	W	0.2	0.1			10			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.10	764.4	30.12	765.0	35.2 1.8		96	WNW			6		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 526.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.89	759.3	30.30	769.6	44.1	6.7		NE			1.0		0					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.99	761.8	30.05	763.2	74.5	23.6	58	NW	6	2.7			0			0	0	Blue sky	
Deesa	29.65	753.0	30.14	765.4	70.7	21.5	29	N	9.1	4.1			0			0	0	Blue sky	
Bombay	29.88	758.9	29.92	759.8	77.5	25.3	65	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yarrowda)	28.13	714.4	29.99	761.7	78.8	26.0	19	ENE	7	3.1			0			0	0	Blue sky	
Belgaum	27.42	696.4	29.95	760.6	79.4	26.3	22	NE	5	2.2			0			0	0	Blue sky	
Lahore	29.38	746.1	30.15	765.9	62.6	17.0	27	Calm	1.2	0.5			0			0	0	Blue sky	
Roorkee	29.14	740.1	30.09	764.3	56.8	13.8	46	NW	5.0	2.2			0			0	0	Blue sky	
Agra	29.53	750.1	30.12	765.2	62.8	17.1	42	NW	6.0	2.7			0			0	0	Blue sky	
Nagpur	29.02	737.1	30.10	764.4	68.5	20.3	34	Calm	3.9	1.7			0			0	0	Blue sky	
Jubbulpore	28.71	729.2	30.14	765.6	58.9	14.9	47	Calm	1.4	0.6			0			0	0	Blue sky	
Lucknow	29.69	754.1	30.09	764.2	60.5	15.8	42	NNW	2.5	1.1			0			0	0	Blue sky	
Allahabad	29.78	756.3	30.11	764.8	57.5	14.2	60	Calm	4.7	2.1			0			0	0	Blue sky	
Patna	29.89	759.2	30.08	764.0	63.0	17.2	50	W	0.9	0.4			0			0	0	Blue sky	
Hazaribagh	27.98	710.8	30.10	764.4	56.8	13.8	38	WNW	11.7	5.2			0			0	0	Blue sky	
Cuttack	29.98	761.4	30.06	763.6	70.6	21.4	20	WNW	2.7	1.2			0			0	0	Blue sky	
Calcutta (Alipore)	30.04	762.9	30.06	763.5	60.3	15.7	69	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.62	752.2	30.02	762.5	63.8	17.7	67	NNE	2.8	1.2			0			0.05	1.3	Blue sky	
Chittagong	29.92	760.0	30.01	762.3	70.8	21.6	83	WNW	3.6	1.6			0			0	0	Misty	
Sibsagar	29.68	753.7	30.03	762.7	60.9	16.1	94	NE	2.2	1.0			4			0.08	2.0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.93	760.2	30.37	771.3	37.8	3.2	54	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.84	758.0	30.40	772.1	25.9	— 3.4	80	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.27	768.9	30.39	771.9	32.2	0.1	53	NNW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.45	748.1	30.40	772.2	24.8	— 4.0	75	ESE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.12	765.0	30.32	779 1	34.5	1.4	59	N	13.0	5.8	.....	.....	0	.....	.....	0.634	16.1	.....	Prof. G. M. Garibaldi.
Mondovi	28.39	721.1	30.42	772.6	28.4	— 2.0	65	W	.....	.....	2	.....	0	.....	.....	0.157	4.0	.....	Prof. D. C. Bruno.
Pesaro	30.32	770.1	30.37	771 5	33.8	1.0	81	NW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.03	762.8	30.31	769.8	40.1	4.5	69	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.2.	767.2	30.30	769.6	39.7	4.3	56	NE	16.1	7.2	.....	.....	8	.....	.....	0.098	2.5	.....	Prof. P. Monte.
Rome	30.03	762.7	30.21	767.3	44.6	7.0	61	N	10.5	4.7	.....	.....	6	.....	.....	0.134	3.4	.....	Prof. P. S. Ferrari
Lecce	30.05	763.2	30.31	769.9	43.2	6.2	61	N	9.4	4.2	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.36	745.7	30.37	771 3	35.8	2.1	81	NE	0.7	0.3	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.73	755.1	29.92	760.0	50.0	10.0	86	NE	.....	.....	1	.....	10	.....	.....	0.055	1.4	.....	Prof. A. Pacinotti.
Palermo	29.82	757.4	30.08	763.9	52.9	11.6	57	SE	7.4	3.3	.....	.....	10	SW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.03	762.8	30.08	763.9	52.7	11.5	84	ESE	37.4	16.7	.....	.....	10	ESE	.....	0.252	6.4	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.66	753.4	30.21	767 3	45.9	7.7	50	NE	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.42	772.6	30.43	772.9	33.2	0.7	84	NE	5.5	2.5	.....	.....	1cs	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.22	767.6	30.44	773.2	38.4	3.6	85	NE	1.1	0.5	.....	0	0	.....	.....	0.005	0.13	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.32	770.1	30.40	772.1	28.3	— 2.1	55	NE	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.38	771.6	30.43	772.9	31.1	— 0.5	75	ENE	3.4	1.5	.....	0	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	24.96	633.9	30.10	764.6	44.6	7.0	62	SE	.....	.....	1	2k	0	.....	.....	0.008	0.2	Clear	Prof. L. Perez.
Leon	24.36	618.7	30.10	764.6	53.4	11.9	85	NW	.....	.....	3	7k	0	SW	.....	0.004	1.0	.....	Prof. M. Leal.
Mazatlan	29.72	754.9	29.98	761.6	63.3	17.4	87	NE	.....	.....	1	1cs	1k	.....	.....	0	0	Foggy	F. Quijano, C. E.
Mexico, Central Observatory	22.95	582.8	30.02	762.4	47.3	8.5	74	SE	0.7	0.3	.....	1k;d	0	W	.....	0	0	.....	The Staff
Morelia	24.11	612.4	.....	.....	55.8	13.2	54	SW	.....	.....	6	6c	8k	E	S	0.024	0.6	Cloudy	M. Fena, M. D.
Pabellon (Aguascalientes)	23.82	605.0	29.95	760.7	40.6	4.8	89	Calm	.....	.....	0	1s	0	S	.....	0.04	1.0	.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.23	590.0	30.05	763.2	46.4	8.0	66	E	4.5	2.0	.....	1c	0	SE	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.10	612.1	30.05	763.2	57.2	14.0	43	SW	.....	.....	2	3	0	W	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	29.88	758.9	29.89	759.2	73.0	22.8	84	N	.....	.....	2	5	5	NW	N	0	0	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	29.85	758.3	29.88	759.0	71.6	22.0	84	Calm	0	0	.....	.....	10k	.....	.....	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	22.41	569.2	30.15	765.9	40.6	4.8	.....	Calm	.....	.....	0	1ks	0	SW	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.46	773.7	30.46	773.7	36.0	2.2	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.33	770.3	30.38	771.7	35.2	1.8	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.40	772.2	30.40	772.2	36.9	2.7	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.45	773.5	30.45	773.5	32.2	0.1	98	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.41	772.3	30.45	773.5	34.3	1.3	71	SW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.15	765.7	30.20	767.1	34.5	1.4	74	W	2.9	1.3	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.82	757.3	29.85	758.3	28.4	— 2.	76	NNW	36	16	.....	.....	9	.....	.....	0.059	1.5	Snowing	
Christiana	29.85	758.3	30.01	762.3	20.5	— 6.4	87	SSE	7	3	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.27	743.5	29.32	744.6	21.9	— 5.6	90	SW	9	4	.....	.....	10	.....	.....	0.579	14.7	Snowing	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.9	30.08	764.1	45.3	7.4	47	NNE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.00	761.9	30.08	764.1	64.6	18.1	70	SW	0	0	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.73	755.2	30.10	764.6	47.5	8.6	31	NNE	24.2	10.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.30	769.6	60.4	15.8	75	NE	9.8	4.4	.....	.....	3	WNW	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. d Silva Costa, Com'd'te.
D. Fernando	.....	.....	.....	A. ... Sande, Com'd'te.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'te.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd'te.
Rio Lima. Capt. S. C. da Silva Costa, Bulama, Bissago Islands, Africa	0	.....	Blue sky	T. Pereira, 2nd Lieut.
SÀ da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd'a.
Sado, Capt. J. A de Brito Capello, S. 15° 02′, E. 12° 09′	2	NW	Blue sky	F. de Assis Camillo, fun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	2	.....	Foggy	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The SÀ da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.55	750.6	29.57	751.1	— 1.8	—18.8	90	SE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.23	767.7	30.14	765.6	3.7	—15.7	81	W	11	5	.....	.....	0	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	30.16	766.1	30.75	781.0	—11.4	—24.1	88	NE	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.34	745.1	29.60	751.7	16.9	— 8.4	97	WSW	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. Dr. Weihrauch.
Ekaterinburg	29.16	740.7	30.28	769.1	—17.1	—27.3	82	SW	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.80	756.9	30.11	764.7	—10.5	—23.6	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.35	745.4	30.07	763.6	— 0.2	—17.9	89	SSE	2	1	.....	c	9cs,ks	.....	.....	.....	.....	Light haze	Physical Cabinet.
Krotzowo*	29.56	750.7	30.09	764.2	— 0.4	—18.0	71	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.98	761.6	30.22	767.5	— 5.4	—20.8	79	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.46	748.2	30.09	764.2	— 9.8	—23.2	75	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.14	714.8	30.79	782.0	—10.8	—23.8	70	NW	2	1	.....	.....	5	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.17	766.4	30.24	768.2	3.4	—15.9	76	Calm	0	0	.....	.....	10cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.81	757.1	30.06	763.5	23.4	— 4.8	83	ESE	4	2	.....	.....	4n	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.43	772.9	30.57	776.5	27.0	— 2.8	37	NW	4	2	.....	.....	4cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.53	750.1	29.55	750.5	10.4	—12.0	100	SSE	13	6	.....	.....	10n	.....	.....	.....	.....	Light snow	Central Physical Obs.
Tashkend	28.37	720.6	29.98	761.5	42.8	6.0	50	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.69	728.8	30.19	766.7	32.2	0.1	49	NW	22	10	.....	.....	6s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.54	750 4	29.99	761.7	25.3	— 3.7	95	W	29	13	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs.
Wilna	29.33	745.0	29.78	756.3	19.8	— 6.8	93	SSW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.67	778.9	31.00	787.5	—14.4	—25.8	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.07	763.8	30.18	766.5	47.5	8.6	57	ENE	5.4	2.42	.....	.....	8	.....	.....	0	0	½ covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.20	767.0	30.26	768.5	46.4	8.0	54	SE	1.1	0.51	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.3	.....	.....	33.8	1.0	73	NE	8.3	3.69	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.7	30.19	766.9	37.4	3.0	55	N	11.9	5.34	.....	0	6	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.97	761.3	30.13	765.2	49.8	9.9	67	ENE	9.4	0.42	.....	5	5	NE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.10	764.4	49.5	9.7	49	SE	3.8	1.7	.....	.....	0	.....	.....	0	0	Clear.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.86	758.5	29.93	760.2	72.6	22.6	88	SSE	8.1	3.6	.....	0	1ks	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.98	761.6	30.04	762.9	78.1	25.6	81	NE	1.1	0.5	.....	.....	8kn	.....	NE	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.87	758.7	29.97	761.2	58.3	14 6	72	ESE	19.9	8.9	.....	0	10	.....	SE	0.024	0.6	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.93	760.2	30.02	762.5	73.0	22.8	76	SE	4.9	2.20	.....	4ks	2k	SE	SE	0	0	Clear.	Enriquetiadea, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.30	745.8	29.40	746.8	19.0	— 7.2	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.58	751.2	29.63	752.5	22.6	— 5.2	80	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.69	754.2	29.74	755.5	29.5	— 1.4	53	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	
Stockholm	29.72	754.8	29.89	759.3	30.6	— 0.8	92	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.77	756.2	29.83	757.7	31.5	1.4	72	NNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.74	755.4	29.83	757.6	28.9	— 1.7	62	WNW	10.7	4.8	.....	.....	2	N	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 11° 08', W. 74° 35'	.....	.....	29.84‡	757.8‡	78.1	25.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.80	733.7	30.41	772.8	24.1	— 4.4	77	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.67	728.2	30.42	772.7	21.7	— 5.7	73	SE	.....	.....	1	.....	8	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +6.3 mm.; Thermometer, —0.2 Cent. Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva * 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.33	770.4	30.6	— 0.8	92	N	2	1.0	.....	.....	10	.....	NW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.17	766.2	41.7	5.4	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.15	765.8	52.7	11.5	60	NW	.....	.....	1	.....	10n	.....	SW	0.08	2.0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.49	749.0	29.50	749.3	22.6	— 5.2	.....	NE	5	2.2	.....	.....	.....	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	29.54	750.3	29.60	751.8	30.9	— 0.6	95	SW	2	0.9	.....	.....	10ks	.....	.....	0.37	9.4	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.63	752.6	29.68	753.9	31.1	— 0.5	95	SW	5	2.2	.....	.....	10s	.....	.....	0.45	11.4	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.88	758.9	18.0	— 7.8	82	W	.....	.....	4	.....	10s	.....	.....	0.05	1.3	Cloudy	James Smith, M. A
Dalhousie, N. B	29.34	745.2	29.51	749.5	23.0	— 5.5	.....	Calm	0	0	.....	.....	10s	.....	.....	0.50	12.7	Cloudy	H. A. Johnson.
Father Point, Quebec	29.49	749.0	29.51	749.5	24.3	— 4.3	94	SW	30.0	13.4	.....	.....	10n	.....	.....	1.10	27.9	Heavy snow	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.67	753.6	30.0	— 1.1	83	SW	3	1.3	.....	.....	10s	.....	SW	0.39	9.9	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.93	735.8	29.82	757.4	8.0	—13.3	96	W	14	6.3	.....	1c	1s	W	.....	0	0	Fair	James Stewart.
Granton, Ontario	28.91	734.3	30.07	763.8	25	— 3.9	.....	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	29.64	752.8	29.78	756.4	33.0	0.6	97	SW	4	1.8	.....	2cs	0	.....	.....	0.79	20.1	Fair	A. Allison.
Hamilton, Ontario	29.69	754.1	30.08	764.0	29.1	— 1.6	93	N	.....	.....	1	8cs	0	N	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.63	752.6	29.99	761.7	20.1	— 6.6	86	W	12	5.4	.....	0	2ks	.....	.....	0.10	2.5	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	29.07	753.6	29.71	754.6	37.2	2.9	79	SW	7	3.1	.....	5ck	0	SW	.....	0.67	17.0	Fair	C. H. Rigby.
Montreal, Quebec	29.61	752.1	29.83	757.7	17.9	— 7.8	96	W	22	9.8	.....	.....	10ks	.....	.....	0.15	3.8	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.88	758.9	29.92	760.0	—20.4	—29.1	64	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.	J. R. Nelson.
Norwood	29.24	742.7	29.99	761.7	16.7	— 8.5	89	W	1	0.4	.....	1k	0	W	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.30	744.2	30.08	764.0	0.8	—17.3	68	N	5	2.2	.....	0	0	.....	.....	0.07	1.8	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.27	743.4	30.08	764.0	15.6	— 9.1	64	W	.....	.....	1	0	0	.....	.....	0.20	5.1	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.37	746.0	30.10	764.5	27.0	— 2.8	76	W	8	3.6	.....	10k	0	W	.....	0.05	1.3	Cloudy	H. Morgan.
Port Stanley, Ontario	29.42	747.3	30.10	764.5	28.2	— 2.1	76	W	10	4.5	.....	.....	10n	.....	.....	0.02	0.5	Cloudy	M. Payne.
Quebec, Quebec	29.33	745.0	29.97	758.6	28.0	— 5.0	93	W	.....	.....	5	.....	10n	.....	.....	0.45	11.4	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.48	748.8	29.98	761.5	3.3	—16.9	78	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. John, N. B	29.53	750.0	29.70	754.4	32	0.0	100	SW	12	5.4	.....	.....	10n	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.29	744.0	30.05	763.3	26.0	— 3.3	80	W	11	4.9	.....	.....	10s	.....	.....	0.18	4.6	Overcast	Miss K. Stewart.
Stratford, Ontario	29.74	730.0	30.09	764.3	24.0	— 4.4	87	NW	8.0	3.6	.....	.....	10s	.....	.....	0.20	5.1	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.67	753.6	29.71	754.6	36.2	2.3	86	SW	10	4.5	.....	9cs	2ks	SW	.....	0.71	18.0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.67	753.6	30.07	763.8	27.2	— 2.7	85	W	8	3.6	.....	.....	10n	.....	.....	0.02	0.5	Cloudy	Magnetic Observatory
Windsor, N. S	29.92	752.3	29.72	754.9	33.0	0.6	95	S	8	3.6	.....	2cs	0	.....	.....	0.27	6.9	Clear	Prof. John E. Oram, M.A
Woodstock, Ontario	28.98	736.1	30.11	764.8	25.5	— 3.6	87	S	14	6.3	.....	.....	10s	.....	.....	0.20	5.1	Overcast	Professor Wolverton.
Yarmouth, N. S	29.71	754.6	29.78	756.4	36.3	2.4	72	W	16	7.2	.....	0	4ks	.....	.....	0.15	3.8	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.93	760.2	27	— 2.8	.....	SW	.....	.....	.....	.....	10n	.....	.....	0.20	5.1	Raining	John Delany.
St. Pierre, N. F., Pilopital Maritime	.....	.....	29.67	753.6	35.6	2.0	.....	SW	.....	.....	2	.....	n	.....	.....	0.20	5.1	Rain & fog	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.75	755.6	29.99	761 7	33	0.6	70	W	4	1.8		2k	0	NW		0	0	Fair	
Alpena, Michigan	29.30	745.7	30.04	763.0	20	— 6.7	85	Calm	0	0			10s		Calm	0.10	2.5	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.92	734.6	30.12	765.0	32	0.0	69	NW	7	3.1			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.10	764.5	30.11	764.8	33	0.6	79	SW	5	2.2		0	0			0	0	Clear	
Augusta, Georgia	29.96	761.0	30.17	766.3	41	5.0	91	N	3	1.3		2cs	5s	SW	SW	0	0	Fair	
Baltimore, Maryland	30.11	764.8	30.16	766.1	38	3.3	63	NW	4	1.8		2c	0	NW		0	0	Clear	
Barnegat, New Jersey	30.05	763.3	30.07	763.8	32	0.0	79	W	10	4.5		0	0			0	0	Clear	
Bismarck, Dakota	28.07	713.0	29.92	760.0	12	—11.1	89	W	2	0.9		0	1s		Calm	0	0	Clear	
Boerne, Texas	28.51	724.1	29.85	758.2	45	7.2	92	SE	1	0.4		5k	0	S		0	0	Fair	
Boise City, Idaho	27.17	690.1	30.13	765.3	41	5.0	82	SE	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.76	755.9	29.92	760.0	34	1.1	70	SW	8	3.6		0	5s		W	0.09	2.3	Fair	
Brackettville, Texas	28.78	731.0	29.85	758.2	46	7.8	84	NE	8	3.6			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.85	732.8	29.93	760.2	4	—15.6	100	W	2	0.9		0	0			0	0	Clear	
Brownsville, Texas	29.85	758.2	29.90	759.4	56	13.3	95	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Buffalo, New York	29.33	745.0	30.06	763.5	29	— 1.7	67	W	12	5.4			10s		W	0.01	0.3	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.58	751.3	29.88	758.9	28	— 2.2	66	W	16	7.2		2ck	8ks	W	NW	0.07	1.8	Cloudy	
Cairo, Illinois	29.79	756.7	30.20	767.1	39	3.9	73	S	6	2.7		0	0			0	0	Clear	
Campo, California																			
Cape Hatteras, N. Carolina	30.08	764 0	30.09	764.3	49	9.4	57	NE	12	5.4		10cs	0	W		0	0	Clear	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	42	5.6	66	N	20	8.9		5ck	5ks	N	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.07	763.8	30.09	764.3	47	8.3	77	NE	18	8.0			10s		Calm	0	0	Cloudy	
Cape May, New Jersey	30.09	764.3	30.12	765.0	40	4.4	73	NW	17	7.6		5ck	0	NW		0	0	Fair	
Castroville, Texas	29.17	740 9	29.89	759.2	46	7.8	77	Calm	0	0			10ks		W	0.53	13.5	Cloudy	
Cedar Keys, Florida	30.03	762.7	30.06	763.5	49	9.4	93	E	9	4.0			10s		SE	0.37	9.4	Cloudy	
Charleston, South Carolina	30.03	762.7	30.09	764.3	48	8.9	85	N	6	2.7			10s		N	0	0	Threatening	
Charlotte, North Carolina	29.97	743.4	30.12	765.0	34	1.1	68	NE	7	3.1		10cs	Sm'e	W	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.36	745.7	30.21	767.4	32	0.0	69	N	1	0.4		5cs	Sm'e	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	24	— 4.4	48	W	20	8.9		0	0			0.01	0.3	Clear	
Chicago, Illinois	29.32	744.7	30.03	762.7	33	0.6	70	S	6	2.7		0	0			0	0	Clear	
Cincinnati, Ohio	29.53	750.0	30.21	767.3	36	2.2	61	SE	3	1.3		0	0			0	0	Clear	
Cleveland, Ohio	29.36	745.7	30.12	765.0	32	0.0	79	SW	10	4.5		2k	5ks	W	SW	0.05	1.3	Cloudy	
Coleman City, Texas	28.13	714.5	29.84	757.9	38	3.3	54	S	6	2.7		0	5s		Calm	0	0	Fair	
Columbus, Ohio	29.30	744.2	30.18	766.6	32	0.0	79	SW	8	3.6		10k	Sm'e	SW	Calm	Inap.	Inap.	Cloudy	
Concho, Texas	27.99	710.9	29.70	754.4	41	5.0	82	S			2	5ck	0	Calm		0	0	Clear	
Corsicana, Texas	29.57	751.1	30.06	763.5	42	5.6	50	SE	4	1.8		2cs	0	Calm		0	0	Clear	
Davenport, Iowa	29.35	745.5	30.01	762.2	31	— 0.6	79	S	1	0.4		5cs	0	Calm		0	0	Fair	
Dayton, Washington T'y					47	8.3	55	SW			4		10s		SW	0.11	2.8	Cloudy	
Deadwood, Dakota	25.20	640.1			29	— 1.7	78	Calm	0	0		0	5s		Calm	0	0	Fair	
Decatur, Texas	28.89	733.8	30.08	764.0	50	10.0	39	SE	8	3.6		2c	5s	Calm	SE	0	0	Cloudy	
Denison, Texas	29.22	742.2	30.03	762.7	43	6.1	51	SE	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.74	628.2	29.96	761.0	21	— 6.1	57	S	7	3.1		0	0			0.01	0.3	Clear	
Des Moines, Iowa	29.09	738.9	30.00	762.0	32	0.0	79	Calm	0	0		0	5s		W	0	0	Fair	
Detroit, Michigan	29.38	746.2	30.08	764.0	29	— 1.7	89	SW	7	3.1			10s		Calm	0.02	0.5	Cloudy	
Dodge City, Kansas	27.44	697.0	29.86	758.4	24	— 4.4	74	N	10	4.5		0	0			0	0	Clear	
Dubuque, Iowa	29.37	746.0	30.11	764.8	25	— 3.9	87	Calm	0	0			Fog		Calm	0	0	Foggy	
Duluth, Minnesota	29.17	740.9	29.89	759.2	15	— 9.4	82	SW	1	0.4		0	0			0	0	Clear	
Eagle Pass, Texas	29.27	741.7	29.94	760.5	50	10.0	79	NW	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.63	752.6	29.70	754.4	32	0.0	69	SW	9	4.0		5k	0	W		0.43	10.9	Fair	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.32	744.7	30.06	763.5	32	0.0	69	W	7	3.1			10s		W	0.05	1.3	Cloudy	
Escanaba, Michigan	29.28	743.7	29.96	761.0	22	— 5.6	72	SW	7	3.1			10s		SW	0.02	0.5	Cloudy	
Florence, Arizona	28.61	726.7	30.21	767.3	32	0.0	69	W	1	0.4		0	0			0	0	Clear	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.79	705.8	29.73	755.1	15	— 9.4	82	Calm	0	0		8cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.65	676.9			37	2.8	54	SW	12	5.4			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.12	638.0	30.08	764.0	38	3.3	72	N	9	4.0		2k	0	W		0	0	Fair	
Fort Gibson, Indian Ter	29.52	749.8	30.08	764.0	37	2.8	63	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Grant, Arizona	25.53	648.8	30.13	765.7	32	0.0	23	N	10	4.5		0	0			0	0	Clear	
Fort Griffin, Texas	28.53	724.6	29.81	757.2	43	6.1	59	Calm	0	0		5s	0	Calm		0	0	Fair	
Fort Keogh, Montana	27.11	688.6			32	0.0	69	SW	3	1.3		0	0			0	0	Clear	
Fort McKavett, Texas	27.69	703.3	29.63	752.6	44	6.7	84	W	3	1.3			10s		W		0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.75	730.2	29.87	758.7	46	7.8	33	SE	13	5.8			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.02	711.7			2	—16.7	86	W	6	2.7		5c	0	W		0	0	Fair	
Fort Verde, Arizona					24	— 4.4	74	NW			2	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.14	714.7	29.72	754.9	45	7.2	61		4	1.8			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.98	761.5	30.02	762.5	56	13.3	51	S	18	8.0		0	0			0	0	Clear	
Graham, Texas	28.88	733.6	29.96	761.0	43	6.1	67	E	6	2.7			10s		S	0	0	Cloudy	
Grand Haven, Michigan	29.35	745.5	30.02	762.5	30	— 1.1	78	S	4	1.8		0	0			0	0	Clear	
Helena, Montana								S											
Henrietta, Texas	29.08	738.6	30.04	763.0	46	7.8	54		16	7.2			10s		SW	0	0	Cloudy	
Indianapolis, Indiana	29.31	744.5	30.12	765.0	34	1.1	70	SE	4	1.8		0	Sm'e		Calm	0	0	Clear	
Indianola, Texas	29.96	761.0	29.99	761.7	56	13.3	81	S	14	6.3		1c	0	W		0	0	Clear	
Jacksboro, Texas	28.80	731.5	29.95	760.7	45	7.2	84	E	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.09	764.3	48	8.9	85	S	10	4.5			10n		Calm	0.19	4.8	Light rain	
Keokuk, Iowa	29.35	745 5	29.98	761.5	35	1.7	70	N	3	1.3		0	5s		Calm	0	0	Fair	
Key West, Florida	29.90	759.4	29.93	760.2	74	8.3	86	SW	12	5.4		2k	0	NW		0	0	Fair	
Kittyhawk, North Carolina	30.10	764.5	30.12	765.0	46	7.8	84	S	28	12.5		5cs	0	Calm		0	0	Fair	
Knoxville, Tennessee	29.17	740.9	30.24	768.1	26.5	— 3.1	82	NE	3	1.3		8k	2cs	SW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.18	741.1	29.96	761.0	22	— 5.6	60	NE	3	1.3		0	2s		Calm	0	0	Fair	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	36	2.2	39	S	2	0.9		0	0			0	0	Clear	
Laredo, Texas	29.59	751.6	29.94	760.5	57	13.9	81	NW	1	0.4			10s		N	0	0	Cloudy	
Leavenworth, Kansas	29.16	740.7	30.04	763.0	33	0.6	79	N	2	0.9			10s			0	0	Cloudy	
Lewiston, Idaho								S											
Little Rock, Arkansas	29.81	757.2	30.18	766.6	38	3.3	81		0	0		0	Sm'e		Calm	0	0	Clear	
Los Angeles, California	29.74	755.4	30.09	764.3	62.0	11.1	35	Calm	8	3.6		0	0			0	0	Clear	
Louisville, Kentucky	29.58	751.3	30.16	766.1	36	2.2	71	N	2	0.9		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.47	748.5	30.18	766.6	36	2.2	61	S	4	1.8		2ck	0			0	0	Clear	
Madison, Wisconsin	28.91	734.3	29.94	760.5	25	— 3.9	75	NW	7	3.1		2cs	0	W		0	0	Fair	
Marquette, Michigan	29.16	740.7	29.89	759.2	24	— 4.4	74	SW	16	7.2			10s		SW	0.12	3.0	Cloudy	
Mason, Texas	28.31	719.1	30.09	764.3	47	8.3	70	S	2	0.9		10cs	0	S		0	0	Cloudy	
Memphis, Tennessee	29.82	757.4	30.18	766.6	36	2.2	62	SE	4	1.8		2cs	0	Calm		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.22	742.2	29.99	761.7	24	— 4.4	87	S	6	2.7	.....	0	1s	.....	Calm	Inap.	Inap.	Clear.	
Mobile, Alabama	30.08	764.0	30.12	765.0	43	6.1	59	NE	10	4.5	.....	2c	8s	SW	SW	0	0	Cloudy	
Montgomery, Alabama	29.93	760.2	30.18	766.6	37	2.8	71	NW	4	1.8	.....	0	8s	.....	W	0	0	Fair	
Morgantown, West Virginia	29.15	740.4	30.17	766.3	39	3.9	55	SW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	23.21	589.5	29.57	751.1	10	—12.2	100	NW	54	24.1	.....	.....	Fog	.....	NW	0.16	4.1	Foggy	
Nashville, Tennessee	29.65	753.1	30.22	767.6	32	0.0	69	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	29.88	758.9	30.00	762.0	38	3.3	72	SW	10	4.5	.....	5ck	8s	SW	Calm	0	0	Cloudy	
New London, Connecticut	29.93	760.2	29.98	761.5	36	2.2	61	W	7	3.1	.....	1ck	0	W	.....	0	0	Clear	
New Orleans, Louisiana	30.04	763.0	30.10	764.5	44	6.7	59	NE	14	6.3	.....	cl	1s	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.90	759.4	29.95	760.7	35	1.7	61	W	16	7.2	.....	2k	0	W	.....	0.03	0.8	Fair	
New River, North Carolina	.....	.....	.....	.....	42	5.6	60	N	.....	.....	2	.....	10s	.....	Calm	.....	.....	Cloudy	
New York, New York	29 86	758.4	30.14	765.5	36	2.2	62	SW	8	3.6	.....	0	8ks	.....	SW	0	0	Fair	
Norfolk, Virginia	30.07	763.8	30.13	765.3	42	5.6	83	N	14	6.3	.....	8cs	Haze	NW	Calm	0	0	Fair	
North Platte, Nebraska	27.09	688.1	29.84	757.9	16	— 8.9	83	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	29.60	751.8	29.64	752.8	37.0	2.8	90	S	11	4.9	.....	.....	10s	.....	Calm	0.86	21.8	Cloudy	
Omaha, Nebraska	28.83	732.3	29.97	761.2	30	— 1.1	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.60	751.8	30.03	762 7	31	— 0.6	79	NW	20	8.9	.....	Haze	8ks	.....	NW	0.35	8.9	Fair	
Pembina, Dakota	28.91	734.3	29.82	757.4	— 6	—21.1	100	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.11	764.8	30.14	765.5	44	6.7	52	N	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pennsylvania	30.05	763.3	30.10	764.5	34	1.1	79	SW	8	3.6	.....	0	8ks	.....	NW	0	0	Cloudy	
Phœnix, Arizona	28.95	735.3	30.84	783.3	39	3.9	55	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.49	444.2	29.70	754.4	— 3	—19.4	66	NW	24	10.7	.....	2cs	0	Calm	.....	0.03	0.8	Clear	
Pilot Point, Texas	29.29	744.0	30.15	765.8	40	4.4	73	S	3	1.3	.....	2k	0	SE	.....	0	0	Fair	
Ploche, Nevada	24.10	612.1	29.87	758.7	24	— 4.4	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.30	744.2	30.14	765.5	35	1.7	80	W	8	3.6	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Port Huron, Michigan	29.37	746.0	30.07	763.8	27	— 2.8	88	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.74	755.4	29.79	756.7	31	— 0.6	69	SW	12	5.4	.....	0	5s	.....	Calm	0.45	11.4	Fair	
Portland, Oregon	29.73	755.1	29.80	756.9	51.5	10.8	72	S	17	7.6	.....	.....	10n	.....	SW	0.20	5.1	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	51	10.6	65	NE	21	9.4	.....	10cs	0	Calm	.....	0	0	Cloudy	
Prescott, Arizona	24.84	630.9	30.20	767.1	21	— 6.1	86	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	56	13.3	94	NE	26	11.6	.....	.....	10n	.....	NE	0.92	23.4	Light rain	
Red Bluff, California	29.78	756.4	30.15	765.8	40.5	4.7	86	S	2	0.9	.....	8cs	0	Calm	.....	0	0	Cloudy	
Rio Grande City, Texas	29.72	754.9	29.94	760.5	55	11.7	86	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.38	746.2	30.02	762.5	29	— 1.7	78	NW	18	8.0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Roseburg, Oregon	29.34	745.2	29.92	760.0	42.5	5.8	91	Calm	0	0	.....	8c	0	Calm	.....	0.09	2.3	Fair	
Sacramento, California	30.04	763.0	30.12	765.0	44	6.7	84	NE	5	2.2	.....	2c	0	SW	.....	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.07	763.8	34	1.1	70	S	7	3.1	.....	0	Sm'e	.....	.....	0	0	Clear	
St. Paul, Minnesota	29 04	737.6	29.92	760.0	21	— 6.1	72	SW	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	20	— 6.7	56	SE	3	1.3	.....	2c	0	Calm	.....	0.07	1.8	Clear	
San Antonio, Texas	29.28	743.7	29.88	758.9	47	8.3	77	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.00	762.0	30.08	764.0	56	13.3	29	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.44	747.8	30.14	765.5	33	0.6	79	W	5	2.2	.....	0	5s	.....	Calm	0	0	Fair	
Sandy Hook, New Jersey	30.02	762.5	30.05	763.3	37	2.8	63	W	17	7.6	.....	5k	0	NW	.....	0	0	Fair	
San Francisco, California	30.05	763.3	30.12	765.0	45	7.2	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.24	590.3	29.78	756.4	18	— 7.8	53	NE	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Savannah, Georgia	30.02	762.5	30.12	765.0	46	7.8	62	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	41	5.0	57	SE	2	0.9	.....	0	7s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.05	763.3	30.09	764.3	44	6.7	68	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Socorro, New Mexico	25.48	647.2	29.55	750.6	27	— 2.8	64	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.39	746.5	30.09	764.3	35	1.7	70	S	8	3.6	.....	0	2s	.....	SW	0	0	Fair	
Springfield, Massachusetts	29.82	757.4	29.96	761.0	37	2.8	45	W	8	3.6	.....	0	5ks	.....	W	0.01	0.3	Fair	
Stockton, Texas	27.04	686.8	30.04	763.0	49	4.4	19	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.88	758.9	29.93	760.2	36	2.2	71	W	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.37	746.0	30.08	764.0	30	— 1.1	78	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Tucson, Arizona	27.62	701.5	30.17	766.3	35	1.7	52	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.40	746.7	29.89	759.2	43	6.1	83	SE	4	1.8	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.08	738.6	29.90	759.4	50	10.0	86	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.91	759.7	30.18	766.6	38	3.3	63	SE	2	0.9	.....	0	0	.....	.....	0	0	Cloudy	
Virginia City, Montana	24.00	609.6	29.48	748.8	33	0.0	61	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.75	755.6	30.14	765.5	37	2.8	95	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Washington, D. C.	30.04	763.0	30.16	766.1	30	2.2	53	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.02	762.5	30.10	764.5	43	6.1	51	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	37	2.8	53	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	29.92	760.0	29.96	761.0	38	3.3	63	NW	18	8.0	.....	0	5s	.....	.....	0	0	Fair	
Yankton, Dakota	28.69	728.7	30.05	763.3	26	— 3.3	87	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.95	760.7	30.11	764 8	46	7.8	33	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.85	758.2	29.90	759.4	76	24.4	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.15	765.8	30.16	766.1	73	22.8	71	Calm	0	0	.....	8c	2cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	80	26.7	87	NE	.....	.....	3	3c	5k	E	.....	0	0	Fair	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.22	742.2	29.77	756.1	79	26.1	89	Calm	.....	.....	0	.....	2ks	.....	.....	0.23	5.8	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.00	762.0	30.02	762.5	71	21.7	85	Calm	0	0	.....	0	2ks	.....	S	0	0	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	— 3.0	—19.4	83	SE	10	4.5	.....	2c	0	E	.....	0.03	0.8	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,700 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,688.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft or 549 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,861 (?) ft., or 2,092 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 3.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.20‡	767.1‡	.....	.....	46	7.8	84	N	10	4.5	.....	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy.
Navy Yard, Portsmouth, N.H	30.20‡	767.1‡	.....	.....	31	— 0.6	79	SW	2	0.9	.....	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.
Alaska, Coquimbo, Chili	29.92‡	760.0‡	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	D. clouds.
Colorado, New York, N. Y.	29.98‡	761.5‡	.....	.....	35	1.7	100	SW	15	6.7	.....	.....	5	.....	SW	0	0	.....	.....	Fair.
Constitution, Fredericksted, Santa Cruz, W. I.	30.04‡	763.0‡	.....	.....	75	23.9	64	ENE	.....	.....	2	.....	5	.....	ENE	.....	.....	.....	.....	Fair.
Enterprise. Piraeus, Greece	30.30‡	769.6‡	.....	.....	46	7.8	62	NE	.....	.....	3	.....	2	.....	N	.....	.....	Mod'ate	.....	Clear.
Franklin, Off Navy Yard, Norfolk, Va.	30.14‡	765.5‡	.....	.....	42	5.6	66	NE	9.6	4.3	.....	.....	8	.....	W	0	0	.....	.....	Cloudy.
Independence, Mare I'd, Navy Yard, Cal.	30.12‡	765.0‡	.....	.....	44	6.7	100	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Foggy
Kearsarge, Key West, Fla.	29.94‡	760.5‡	.....	.....	76	24.4	91	SSE	.....	.....	3	.....	5	.....	SE	.....	.....	Smooth	.....	Fair.
Lackawana, N. 35° 25′, W. 143° 30′	30.23‡	767.8‡	.....	.....	55	12.8	74	NW	.....	.....	6	.....	0	.....	.....	.....	.....	Mod'ate	NW	Clear
Marion, S. 9° 00′, W. 34° 33′	29.88‡	758.9‡	.....	.....	83	28.3	75	E	.....	.....	4	.....	2	.....	E	0	0	Smooth	E	Clear
Michigan, Erie, Pa.	30.07‡	763.8‡	.....	.....	33	0.6	61	WNW	.....	.....	3	.....	10	.....	NW	.....	.....	.....	.....	Cloudy
Monocacy, Shanghai, China.	30.40‡	772.1‡	.....	.....	38	3.3	81	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡	.....	.....	47	8.3	70	NE	10	4.5	.....	.....	1?	.....	NE	0	0	.....	.....	Cloudy?
Nipsic, La Guayra, Venezuela, S. A.	29.94‡	760.5‡	.....	.....	77	25.0	82	ENE	.....	.....	2	.....	5	.....	ENE	.....	.....	Mod'ate	ENE	D. clouds.
Onward, Callao, Peru	29.89‡	759.2‡	.....	.....	69	20.6	95	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Mod'ate, smooth	W	Misty.
Palos, Tientsin, China	30.53‡	775.4‡	.....	.....	28	— 2.2	100	WSW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair
Passaic, Washington, D. C.	30.14‡	765.5‡	.....	.....	36	2.2	90	NW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	70	21.1	90	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Hazy.
Powhatan, Off Ellis I'd., N. Y. Harbor	30.07‡	763.8‡	.....	.....	37	2.8	63	NNW	.....	.....	4	.....	8	.....	WNW	0	0	.....	.....	Cloudy.
Quinnebaug, Leghorn, Italy	30.24‡	768.1‡	.....	.....	49	9.4	50	E	.....	.....	4	.....	2	.....	E	.....	.....	.....	.....	Fair.
Ranger. N. 35° 04′, W. 146° 20′	30.24‡	768.1‡	.....	.....	55	12.8	74	NNW	.....	.....	6	.....	2	.....	NNW	.....	.....	Rough	NW	Clear.
Richmond, Hong-Kong, China.	30.23‡	767.8‡	.....	.....	59	15.0	70	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Smooth	.....	Raining
Rio Bravo, Brownsville, Texas	30.11‡	764.8‡	.....	.....	57	13.9	100	N	2	0.9	.....	.....	10	.....	SW	0.30	9.1	.....	.....	Cloudy.
Santee. Annapolis, Md.	30.15‡	765.8‡	.....	.....	34	1.1	.....	W	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear.
Shenandoah, Montevideo, Uruguay	29.78‡	756.4‡	.....	.....	75	23.9	74	NNE	.....	.....	5	.....	2	.....	NNE	.....	.....	Mod'ate	NNE	Fair.
St. Louis, League Island, Pa.	30.08‡	764.0‡	.....	.....	35	1.7	90	SW	10	4.5	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy.
Swatara, N. 41° 55′, W. 63° 29′	29.87‡	758.7‡	.....	.....	48	8.9	78	WSW	.....	.....	3	.....	10	.....	WSW	.....	.....	Long	WSW	Cloudy.
Tennessee, Norfolk, Va.	30.13‡	765.3‡	.....	.....	43	6.1	67	N	13	5.8	.....	.....	2	.....	W	0	0	.....	.....	D. clouds.
Trenton, Port Mahon, Minorca, Med.	30.10‡	764.5‡	.....	.....	66	18.9	45	NE	.....	.....	4	.....	2	.....	.....	0	0	.....	.....	Fair.
Tuscarora, La Union, S. Salvador.	29.89‡	759.2‡	.....	.....	76	24.4	82	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear
Wabash, Boston, Mass.	29 86‡	758.4‡	.....	.....	38	3.3	100	SW	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Fair.
Wyoming, Toulon, France.	30.19‡	766.8‡	.....	.....	48	8.9	44	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	NE	Clear.

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from: they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks....																			W. E. Jago.
S. S. Circassian.....																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 52° 25′, W. 5°58′.....		30.38‡	771.4‡	38	3.3		SSE			4		10		SE		Smooth		Cloudy.....	
S. S. Moravian, J. Graham.																			
S. S. Peruvian.....																			John France.
S. S. Sardinian, J. E. Dutton																			A. Christie&F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 55° 18′, W. 10° 13′.....		29.99‡	761.7‡	43	6.1		SSE			5		10		SSE		Cross	SSE; W	Cloudy.....	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe&G. Worth, jr.
S. S. Indiana, R. W. Sargent N. 39° 42′, W. 70° 44′...		30.12‡	765.0‡	42	5.6		W			6		3		W	Heavy	Mod'ate	W	Clear.	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.....																			
S. S. Braunschweig, C. Undutsch...																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 45° 40′, W. 35° 55′.....		30.39‡	771.9‡	50.5	10.3	65	NNW			4		8		NNW	0	Mod'ate	NNW	Cloudy.....	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 27′, W. 54° 31′.....		30.00‡	763.5‡				NNE			4		5		N		Long	NE	Cloudy?.....	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 32′, W. 157° 05′...†.		30.17‡	766.4‡	61	16.1	71	NE			4		10		NE		Smooth		Cloudy.....	D. A. Joyce.
S. S. Gaelic, Davidson, Yokohama, Japan.....†.		30.14‡	765.5‡	43	6.1		NE			2		8		NE	0	Smooth		D. clouds....	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			
S. S. Oregon.....																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander...																			
S. S. Idaho, E. Alexander....																			
S. S. Orizaba.....																			
S. S. State of California, G. Dobney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels and Captains.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann. Esquimalt Harbor, Vancouver I'd.		29.38‡	746.2‡	47	8.3		SSW			1		10						Heavy rain.	E. Polemann. R. Thompson & J. Anderson.
S. S. City of Panama, M. Connolly																			
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury N. 23° 06′, E. 117° 18′ ...†		30 20‡	767.1‡	56	13.3	81	NW			6		10			0	Mod'ate	NW	Squally	E. LeSack.
S. S. Colima, R. R. Searle																			D. E. Griffith.
S. S. Dakota, D. E. Griffith																			
S. S. Granada, J M Cavarly																			
S. S. Zealandia, R. C. Ghest. N. 2° 30′, W. 145° 30′		30 10‡	764.5‡				E			6				E		High	NE	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson N. 47° 55′, W. 36° 48′		30.07‡	763.8‡	53	11.7		W	40	17.9			5		W	4 h'rs	Heavy	W	Fair	J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			
S. S. Switzerland																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 47° 11′, W. 37° 39′		30.33‡	770.4‡	48	8.9		NNW			3				NNW	0	High	NW	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			G. W. Ryder.
S. S. Republic, P. J. Irving																			

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 41° 20′, E. 16° 10′		30.18‡	766.6‡	58	14.4		WSW			2		10		WSW		Heavy Cross	S	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. Arroyo, Porto Rico, W. I.†		30.15‡	765.8‡	76	24.4		E			5		2		E	0	Smooth	ESE	Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

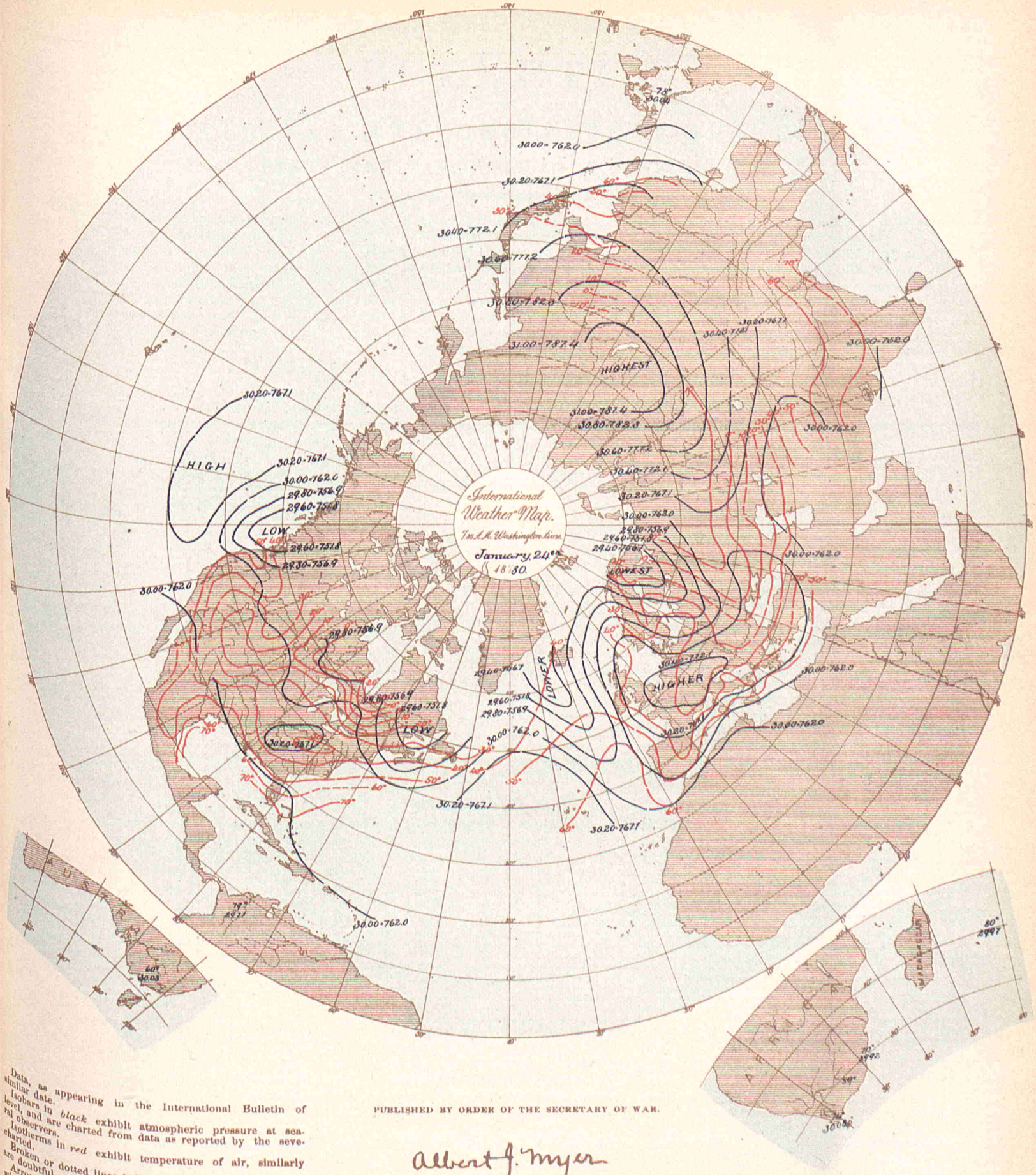
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 25, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:42 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.16	766.1				NE			1		3			0	0	Pretty fair..	
Nemours			29.96	761.0	59.4	15.2	80	E			1		4			0	0	Cloudy	Kesxuche.
Algiers			29.99	761.7	55.8	13.2	67	W			3		3			0	0	Pretty fair..	Tourilliere.
La Calle			29.95	760.6	57.4	14.1	67	W			4		7			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.00	762.0															Grau.
Saida			30.01	762.3															Herbin.
Tebessa			30.00	762.0	46.8	8.2	65	W			1		4			0	0	Cloudy	Watrin.
Geriville								NW			1		2			0	0	Fair	Brugniaux.
Laghouat			30.00	762.1	49.3	9.6	46	NNE			2		4			0	0	Cloudy	Bertrand.
Biskra			29.94	760.5	60.4	15.8	76	WNW			1		0			0.189	4.8	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,860? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.80	756.8	30.39	771.9	23.4	— 4.8	81	S			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.52	749.7	30.33	770.4	30.2	— 1.0	92	W	4.7	2.1			5			0	0		Dr. Wierzbicki.
Eperies	29.32	744.7	30.28	769.1	17.6	— 8.0	83	Calm			0		1cs		S	0.092	2.34		Julius Mikolik.
Gratz	29.02	737.2	30.36	771.2	29.3	— 1.5	68	SW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.74	729.9	30.26	768.7	26.1	— 3.3	59	NW			4		9			0	0		Prof. A. Gottschling.
Kremsmünster	28.89	733.9	30.34	770.7	22.3	— 5.4	96	ENE			1		0			0	0		Prof. C. Wagner.
Lemberg	29.09	738.8	30.13	765.4	28.9	— 1.7	94	NW			3		8			0.008	0.2		Dr. T. Stanecki.
Pola	30.17	766.3	30.29	769.3	40.5	4.7	43	WNW			1		0			0	0		I.R.Hydrographic Office
Szathmar	29.83	757.7	30.34	770.6	18.0	— 7.8	77	N			1		0			0	0		Pet. Panesics, S. J.
Szegedin	29.99	761.7	30.30	769.3	30.2	— 1.0	88	Calm			0		6			0	0		Karl Stancel.
Trieste	30.21	767.3	30.31	769.9	37.4	3.0	59	Calm			0		0			0	0	Clear	P. Busin.
Vienna	29.59	751.6	30.33	770.4	33.4	0.8	82	NW			1		10			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Pasau.
Brussels	30.02	762.6	30.24	768.1	36.3	2.4	68	E			1		0			0	0		Royal Observatory.
Furnes	30.00	762.0	30.20	767.0	31.5	— 0.3	70	E			2		0			0	0		M. E. de Cae.
Maeseyck	30.13	765.2	30.25	768.4	31.8	— 0.1	86	SE			4		8			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.00	762.0	30.10	764.5	35.0	1.7	.....	SSW	9	4.0	.....	.....	9	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh,'(Observatory)	29.80	756.9	30.05	763.3	38.0	3.3	.....	SSE	17	7.6	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.14	765.5	32.8	0.4	.....	ESE	18	8.0	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.64	752.8	30.16	766.1	30.0	— 1.1	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	76	24.4	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pyt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.11	764.8	30.21	767.3	33.6	0.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	30.18	766.6	34 0	1.1	.....	SE	.....	.....	0-1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chr tham (School M. E.)	30.07	763.8	30.21	767.3	34.2	1.2	.....	E	.....	.....	1	.....	4k	.....	.....	.....	.....	D. clouds	W. Gibson, Sapper, R.E.
Dor ghadee	30.02	762.5	30.07	763.8	38	3.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.14	765.5	30.17	766.3	32	0.0	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Clear	J. Costello.
Falmouth (Observatory)	29.80	756.9	30.04	763.0	37.8	3.2	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.76	705.1	29.98	761.6	71.4	21.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.92	760.0	43	6.1	.....	SSE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordne, A.H.C
Glasgow, (Observatory)	29.90	759.4	30.11	764.8	34.6	1 4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.23	767.8	30.24	768.1	33	0.6	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	30.00	762.0	30.18	766.6	32.2	0.1	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.85	758.2	30.08	764.0	32	0.0	.....	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Dr.S.E Hoskins, F.R.S.
Helston	30.16	766.1	30.29	769.4	40	4.4	.....	SE	.....	.....	2	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.02	762.5	30.10	764.5	37	2.8	.....	S	.....	.....	3	.....	4?	.....	.....	.....	.....	Overcast ?	John Tilston.
Jersey	29.80	756.9	30.11	764.8	33.4	0.8	.....	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew (Observatory)	30.15	765.8	30.19	766.8	33.0	0.6	.....	ESE	.....	.....	.....	.....	10	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	29.94	760.5	30.19	766.8	30.0	— 1.1	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.84?	757.9?	29.91?	759.7?	61.4	16.3	.....	SE	.....	.....	2	.....	6kn	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.89	759.2	29.98	761.5	40	4.4	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	29.94	760.5	71.5	21.9	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.01	762.2	30.21	767.3	30.2	— 1.0	.....	SE	.....	.....	2	.....	10k	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.62	752 3	30.18	766.6	29.7	— 1.3	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.94	760.5	30.20	767.1	31	— 0.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.98	761.5	30.06	763.5	35.7	2.1	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	29.86	758.4	29.93	760.2	44	6.7	.....	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	29.90	759.4	30.07	763.8	37	2.8	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.98	761.5	38	3.3	.....	S	14	6.3	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.17	766.3	30.24	768.1	35.6	2.0	.....	WNW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Sheffield	29.93	760.2	30.22	767.6	29.9	— 1.2	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Serg't W. H. Lyne.
Silloth Rectory	30.11	764.8	30.14	765.5	33.3	0.8	80	SE	.....	.....	2	.....	7	.....	.....	0	0	Overcast	W. F. Cooper.
Stonyhurst (Observatory)	.....	.....	30.15	765.8	30.5	— 0.8	.....	SE	7	3.1	.....	.....	10	.....	.....	.....	.....	D. clouds	Rev. F. Redford, A.M.
Stratfield, Turgiss	.....	.....	.....	.....	32.4	0.2	.....	SE,	.....	.....	2-3	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Truro (Royal Institution)	29.98	761.5	30.07	763.8	39	3.9	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith, F.M.S.
Valencia Observatory)	29.86	758.4	29.89	759.2	44.5	6.9	.....	SE	24	10.7	.....	.....	10	.....	.....	Blank	Blank	Gloomy	W. Newcombe.
Sub-Series.																		Misty	The Met'g'l Office.
Cape Town (C. G. H. Obs'y)	29.83	757.7	29.87	758.7	94	34.4	33	S	15.8	7.1	.....	0	0	.....	.....	0	0	Clear	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.54	648.7	.....	.....	91	32.8	.....	W	.....	.....	.....	2c	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	72	22.2	.....	SE	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc't'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.00	762.1	79.4	26.3	70	SE	20.5	9.2	.....	0	8	.....	E	0.01	0.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.18	766.6	30.27	768.8	58.4	14.7	69	SE	13	5.8	.....	.....	9	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.90	759.4	43	6.1	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	29.97	761.2	.....	.....	.....	S	.....	.....	6	3	5	S	.....	0	0	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
H. M. S. Alert, Fortescue Bay, Patagonia	.....	.....	29.51‡	749.5‡	47.5	8.6	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Capt. A. J. Brown
City of Agra, S. 55° 40′, W. 91° 30′	.....	.....	29.36‡	745.7‡	47.5	8.6	.....	WNW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Capt. Thos. Young.
City of Cashmere, S. 44° 15′, W. 38° 06′	.....	.....	29.80‡	759.2‡	54	12.2	.....	N	.....	.....	6	cs;ck	9s	WSW	NNW	.....	.....	Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 39° 50′, W. 30° 00′	.....	.....	30.39‡	771.9‡	58	14.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Capt. Jas. Buchan.
Barque Fedalma, N. 49° 50′, W. 14° 00′	.....	.....	29.85	758.2	56	13.3	.....	NW	.....	.....	6	.....	5	.....	.....	4	W	D. clouds	Capt. H. L. Fox.
Bqte Fylde, N. 44° 20′, W. 30° 50′	.....	.....	30.29	769.4	57	13.9	.....	SW	.....	.....	5	.....	9	.....	.....	7	wsw	Overcast	Capt. L. C. Dart.
S. S. German, East London, Cape Colony	.....	.....	30.07‡	763.8‡	70	21.1	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Capt. O. D. Coxwell.
S. S. Richmond, N. 21° 50′, W. 74° 05′	.....	.....	29.89	759.2	74	23.3	.....	E	.....	.....	4	.....	6	.....	.....	4	ESE	Showery	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 1° 54′, E. 84° 40′	.....	.....	29.94‡	760.5‡	86.5	30.3	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N 36° 30′, W. 3° 25′	.....	.....	29.99†	761.7‡	54.5	12.5	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Capt. C. W. Pearson. Capt. C. M. Dobson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.14	663.9	29.86	758 4	64.8	18.2	92	SE	.....	.....	3	98	....	NE	.....	0.8	0.76	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.																			
Copenhagen	30.27	768.8	30.32	700.0	30.2	— 1.0	90	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Faröe	30.28	769.0	30.30	769.5	35.6	2.0	96	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Godthaab (Greenland)																			
Stykkisholm (Iceland)	28.99	736.4	29.04	737.5	34.2	1.2	70	SW	.....	.....	7	.....	8	.....	.....	.....	.....	Snowing	
Thorshavn (Faröe)	29.63	752.6	29.67	753.5	45.7	7.6	85	SW	.....	.....	8	.....	10	.....	.....	.....	.....	.....	
Vestervig	30.26	768.7	30.37	771.5	34.6	1.4	94	SSE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.																			
Alençon, Normal School	29.62	752.4	30.17	766.4	33.8	1	92	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.09	764.3	30.21	767.3	24.4	— 4.2	90	E	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.93	760.2	30.21	767.2	21.4	— 5.9	97	SSE	.....	.....	4	.....	.....	.....	.....	0	0	Light mist	Klein, Commandant.
Avignon, Normal School	30.08	764.1	30.16	766.1	39.7	4.3	84	N	.....	.....	1	.....	2	.....	SE	0	0	Slightly cld'y	Giraud, Director.
Bar-sur-Seine	29.60	751.9	30.20	767.0	25.5	— 3.6	77	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.91	759.7	30.20	767.0	23.5	— 4.7	95	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.33	744.9	30.30	769.7	16.7	— 8.5	.....	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	29.80	756.9	30.00	761.9	43.5	6.5	43	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	30.51	774.9	30.24	768.2	23.0	— 5	95	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.56	750.9	30.15	765.7	29.8	— 1.2	99	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Genee, Director.
Brest, Naval Observatory	29.78	756.3	30.02	762.5	36.0	2.2	71	ESE	.....	.....	1	.....	3	.....	ESE	0	0	.....	Ch. de Rermaree, Dir
Caen, Normal School	30.05	763.3	30.13	765.3	34.0	1.1	96	S	.....	.....	1	.....	1	.....	S	0	0	Clear	M. Bietrix, Director.
Carcassonne, N. School	29.63	752.6	30.06	763.4	42.1	5.6	42	E	.....	.....	3	.....	5	E	E	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.88	759.0	30.22	767.6	31.3	— 0.4	.....	SE	.....	.....	1	.....	5	SE	SE	.....	.....	Cloudy	Jadot, Director
Chartres, Normal School	29.57	751.0	30.18	766.6	18.7	— 7.4	23	E	.....	.....	1	.....	2	.....	S	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.71	729.1	30.12	765.0	36.5	2.5	62	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.31	744.5	30.21	767.2	29.0	— 5	.....	E	.....	.....	1	.....	1	.....	E	0	0	Clear	Dr. Coullet, Director
Commune de Gréasque*	28.99	736.3	30.13	765.3	43.2	6.2	51	SE	.....	.....	2	.....	10	.....	SE	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.48	748 7	30.32	770.1	17.4	— 8.1	.....	E	.....	.....	1	c	.....	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.84	758.0	30.07	763.8	35.2	1.8	85	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.84	758.0	30.17	766.4	22.1	— 5.5	90	SSE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.27	743.5	30.23	767.7	20.3	— 6.5	59	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	29.93	760.1	30.04	762.9	28.4	— 2.0	78	NNE	.....	.....	2	.....	.....	.....	NE	0	0	.....	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.56	750.9	30.23	767.8	21.2	— 6.0	74	E	.....	.....	1	.....	1k	.....	S	0	0	Clear	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.84	757.8	30.11	764.7	48.0	8.9	43	SE	.....	.....	1	.....	7	.....	ESE	Inap.	Inap.	.....	E. Stephan, Director.
Mirecourt, Normal School	29.15	740.5	30.30	769.5	16.3	— 8.7	82	NNE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	24.72	627.8	30.03	762.8	31.5	— 0.3	70	SE	11.2	5.0	.....	.....	3	.....	S	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.09	764.2	30.12	765.0	48.0	8.9	69	NE	.....	.....	1	.....	5	E	NE	0	0	Cloudy	Capt. Boissière, Director.
Nismes, Normal School	29.97	761.3	30.18	766.6	45.0	7.2	69	E	.....	.....	1	.....	cn	.....	SE	0	0	.....	M. Boyer, Director.
Paris, Montsouris Obs'y	29.89	759.3	.....	.....	20.8	— 6.2	89	SE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Snow-flakes	Marié Davy, Director.
Perpignan	29.99	761.8	30.11	764.7	38.5	3.6	78	NE	5.6	2.5	.....	.....	9	.....	SE	0.012	0.3	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.29	566.2	.....	.....	28.0	— 2.2	.....	.....	.....	.....	.....	.....	.....	.....	SW	0	0	.....	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.08	738.5	30.21	767.3	30.2	—1	.....	SSE	.....	.....	1	.....	.....	.....	.....	0	0	Misty	M. Talliéu
Puy de Dome (Summ') Obs	25.08	637.1	.....	.....	28.2	— 2.1	47	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.06	763.5	30.09	764.3	40.1	4.5	67	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. E. Decante, Director
Rouen, Normal School	30.08	764.1	30.17	766.3	28.8	— 1.8	78	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.04	763.0	30.07	763.8	35.2	1.8	81	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.02	762.5	30.19	766 7	21.0	— 6.1	94	ENE	.....	.....	1	.....	10	.....	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.91	734.4	30.01	762.3	49.1	9.5	13	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Toulouse, Observatory	29.35	745.4	30.07	763.8	43.3	6.3	53	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	B. Baillaud, Dir.
Tours	29.93	760.2	30.13	765.2	24.3	— 4.3	.....	E	.....	.....	1	.....	.....	.....	.....	0	0	Misty	M. de Tastes.
Versailles, Observatory	29.67	753.6	30.16	766.1	19.8	— 6.8	94	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.52	740.7	30.28	769.2	25.2	— 3.8	97	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.83	757.7	29.86	758.4	71.6	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.55	776.0	30.58	776.6	30.2	— 1 0	90	NW	21.3	9.5	.....	.....	9k	.....	NNW	0.118	3.0	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m, and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 8,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.45	748.0	30.32	770.1	27.3 —	2.6	83	NW			4		6ks	W		0	0		Prof. Dr. Hoh.
Berlin	30.20	767.0	30.38	771.6	35.2	1.8	75	N			1		10			0.047	1.2		Prof. Dr. Arndt.
Breslau	29.81	757.2	30.35	770.8	32.0	0.0	81	NNW			1		3			0	0		Royal University Obs'y.
Carlsruhe	29.83	757.6	30.28	769.2	27.7 —	2.4	84	NE			2		0			0	0		Albert Senz.
Cassel	29.72	754.8	30.33	770.4	29.5 —	1.4	88	S			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.04	763.0	30.43	772.9	29.5 —	1.4	55	NE			1		7			0	0		Physical Society.
Friedrichshafen	28.82	731.9	30.38	771.6	17.1 —	8.3	70	ENE			2		3	NE		0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.27	768.8	30.34	770.6	34.2	1.2	100	WSW			2		10			0.020	0.5	Dense fog	Dr. Reinhold Kleeman.
Kiel	30.30	769.5	30.31	769.9	34.3	1.3	96						10			0.008	0.20		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.15	765.8	30.24	768.0	32.5	0.3	62	NW			5		4			0.106	2.7	Snowing	Prof. E. Luther.
Köslin			30.35	770.8	27.7 —	2.4		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	29.93	760.2	30.37	771.5	32.4	0.2	85	WSW			1		10			0.020	0.5	Foggy	Prof. Dr. Brahms, Privy Counselor
Magdeburg	30.12	765.1	30.35	771.0	35.8	2.1	85	W			2		10ks			0	0		Dr. Assmann.
Memel	30.17	766.4	30.22	767.6	28.6 —	1.9	86	N			3		10k					Snow-squalls	Reinbrecht & Issermann.
Munich (München)	28.41	721.6	30.29	769.3	17.8 —	7.9	85	E			1		5	E		0	0		Dr. C. Lang.
Neufahrwasser	30.30	769.6	30.32	770.0	31.8 —	0.1	72	NNW			2		8			0	0		A. Lothes.
Neustadt (Palatinate)	29.75	755.6	30.28	769.1	27.0 —	2.8		NE			1		1	E		0	0		Reallehrer Dicknether.
Posen	30.05	763.2	30.36	771.1	24.3 —	4.3	98	W			4		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.74	755.5	30.35	770.8	17.8 —	7.9	97	S			2		9			0	0		Imp. University Observatory.
Stuttgart	29.32	744.8	30.33	770.3	27.5 —	2.5	68	S					0			0	0		Prof. Dr. Schoder.
Thorn	30.17	766.3	30.36	771.2	30.9 —	0.6	70	Clam			0		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.76	730.5	30.35	770.9	27.1 —	2.7	94	NE	0.4	0.2			2s			0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.31	769.9	30.34	770.5	30.0 —	1.1	100	WNW			2		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.89	759.3	30.30	769.6	45.3	7.4		NE			1.0		0					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	760.9	30.01	762.2	73.8	23.2	40	NNW	4	1.8			6		NNW	0	0	D. clouds	
Deesa	29.66	753.3	30.14	765.5	79.4	26.3	26	N	8.8	3.9			5	WSW		0	0	D. clouds	
Bombay	29.87	758.6	29.90	759.6	78.6	25.9	70	NNW	17	7.6			0			0	0	Blue sky	
Poona (Yarrowda)	28.16	715.2	30.02	762.5	79.3	26.3	13	ENE	12	5.4			0			0	0	Blue sky	
Belgaum	27.45	697.2	30.00	762.1	74.9	23.8	25	NE	6	2.7			4	SW	SW	0	0	D. clouds	
Lahore	29.38	746.2	30.16	766.1	58.6	14.8	38	Calm	0.7	0.3			0			0	0	Blue sky	
Roorkee	29.21	742.0	30.16	766.0	60.8	16.0	55	W	2.7	1.2			3			0	0	D. clouds	
Agra	29.59	751.5	30.18	766.6	62.8	17.1	47	Calm	4.2	1.9			2			0	0		
Nagpur	29.04	737.7	30.12	764.9	71.3	21.8	36	E	3.4	1.5			0			0	0	Blue sky	
Jubbulpore	28.74	729.9	30.15	765.7	68.2	20.1	20	NE	1.2	0.5			0			0	0	Blue sky	
Lucknow	29.77	756.1	30.17	766.2	61.4	16.3	48	Calm	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.64	758.0	30.18	766.4	59.3	15.2	51	Calm	2.6	1.2			1			0	0	D. clouds	
Patna	29.98	761.6	30.18	766.4	63.8	17.7	40	NNW	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	28.05	712.5	30.15	765.9	59.8	15.4	35	NW	4.2	1.9			0			0	0	Blue sky	
Cuttack	30.02	762.5	30.11	764.7	67.4	19.7	52	Calm	1.0	0.4			0			0	0	Blue sky	
Calcutta (Allipore)	30.07	763.9	30.10	764.4	65.9	18.8	66	N	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.70	754.5	30.11	764.7	68.6	20.3	57	E	7.0	3.1			0			0	0	Blue sky	
Chittagong	29.95	760.7	30.04	763.1	69.0	20.6	73	NW	2.4	1.1			2			0	0		
Sibsagar	29.81	757.2	30.16	766.2	63.0	17.2	82	ESE	2.5	1.1			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.88	759.0	30.32	770.1	36.0	2.2	57	Calm	0	0			0			0	0		Prof. Giovanni Clodig.
Milan	29.77	756.1	30.32	770.2	27.7	— 2.4	81	NW					0			0	0		Prof. Schiaparelli.
Padua	30.21	767.2	30.32	770.2	31.1	— 0.5	55	NNE	2.5	1.1			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.34	745.3	30.26	769.4	21.6	— 5.8	72	ESE	0	0			0			0	0		Prof. P. F. Denza.
Genoa	29.98	761.5	30.18	766.6	39.4	4.1	42	NE	13.7	6.1			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.28	718.2	30.30	769.7	29.1	— 1.6	58	NE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	30.24	768.2	30.30	769.6	34.3	1.3	76	W	6.3	2.8			10	SE		0	0		Prof. Luigi Guidi.
Florence	29.93	760.1	30.20	767.1	41.9	5.5	55	NE			6		4			0.146	3.7		Cav. F. Meucci.
Leghorn	30.08	764.0	30.17	766.3	41.0	5.0	72	NE	18.7	8.1			6			0	0		Prof. P. Monte.
Rome	29.94	760.4	30.12	765.0	43.3	6.3	55	N	5.6	2.5			9			0	0		Prof. P. S. Ferrari
Lecce	29.98	761.6	30.25	768.3	45.9	7.7	56	ENE	3.1	1.4			10			0.008	0.2		Prof. C. De Giorgi
Cosenza	29.30	744.3	30.31	769.9	36.1	2.3	79	NE	0.7	0.3			10			0.508	12.9		Prof. D. Conti.
Cagliari	29.65	753.2	29.85	758.1	51.8	11.0	78	E			2		6	SE		0.366	9.3		Prof. A. Pacinotti.
Palermo	29.73	755.2	29.99	761.7	51.3	10.7	91	ENE	5.6	2.5			10			0.382	9.7		Prof. G. Ciacciatore.
Syracuse	29.95	760.7	29.99	761.8	55.2	12.9	85	ESE	4.9	2.2			10	ESE		0.437	11.1		Prof. V.G. Guliano.
Sub-Series.																			
Naples, S. R.	29.59	751.5	30.13	765.4	44.4	6.9	58	NE	3.8	1.7			10			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.10	764.5	30.12	765.0	36.7	2.6	95	NNE	2.9	1.3			10n			0.042	1.07	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767.1	41.8	5.4	89	N	4.3	1.9			10n			0.140	3.56	Light rain.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	31.4	— 0.3	80	SE	3.3	1.5		6ck;cs	0	WNW		0	0	Light fog	The Staff.
Wakayama	30.04	763.0	30.09	764.3	37.7	2.2	82	NW	2.1	0.9			10s			0.260	6.60	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.05	636.3	30.37	771.4	32.0	0 0	49	SE			1	0	0			0	0	Very clear	Prof. L. Perez.
Leon	24.43	620.4	30.33	770.3	43.0	6.1	80	N			2	0	0			0	0		Prof. M. Leal.
Mazatlan	29.71	754.7	29.98	761.4	63.9	17.7	60	Calm			0	0	0			0	0	Very fine	F. Quijano, C. E.
Mexico, Central Observatory	22.94	582.7	30.09	767.2	42 8	6.0	66	NE	1.1	0.5		0	0			0	0	Fine	The Staff
Morelia	24.10	612.1			52.7	11 5	55	N			6	3c	4k	E	S	0	0		M. Fena, M. D.
Pabellon (Aguascalientes)	23.93	607.9	30.16	766.3	34.3	1.3	37	N			2	0	0			0	0		M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.24	590.2	30.15	765.7	41.9	5.0	40	E	7.2	3.2		8ck	0	S		0	0	Cloudy	Prof. P. Spina.
San Luis Potosi	24.11	612.4	30.37	771.5	35.6	2.0	59	NW			2	0	0			0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.88	758.9	29.89	759.2	70.2	21.2	83	N			6	2	8	N	NW	0.19	4.9	Raining	Prof. M. M. Chazaro.
Vera-Cruz	29.86	758.5	29.89	759.2	72.6	22.5	74	N	31.3	14.0		8k	0			0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.50	571.6	30.36	771.1	33.1	0.6		Calm			0	0	0			0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.5 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.1 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.26	768.6	30.26	768.6	30.7	— 0.7		SE			2					0	0		
Helder	30.30	769.7	30.34	770.5	34.3	1.3		S								0	0		
Hellevoetsluis	30.29	769.3	30.29	769.3	33.1	0.6		ESE			2					0	0		
Utrecht	30.27	768.9	30.27	768.9	27.5	— 2.5	85	ESE			2								
	30.25	768.3	30.30	769.5	34.7	1.5	72	SE			3		2			0	0	Sl'tly cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Empera-ture of the Air. Fahrenheit.	Empera-ture of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.13	765.3	30.19	766.7	33.8	1.0	75	ESE	10.3	4.6	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.89	759.3	29.93	760.3	36.0	2.2	96	SW	27	12	.....	.....	10	.....	.....	0.181	4.6	Raining	
Christiana	30.11	764.7	30.26	768.7	20.8	— 6.2	87	Calm	0	0	.....	.....	7	.....	.....	0	0	Light fog	
Tromsö	29.78	756.3	29.82	757.4	24.1	— 4.4	93	Calm	0	0	.....	.....	10	.....	.....	0.079	2.0	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	24.01	736.8	30.04	762.9	47.5	8.6	52	E	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.13	765.4	30.22	767.6	65.5	18.6	57	SW	8.1	3.6	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.72	754.9	30.09	764.3	46.4	8.0	55	NE	2.5	1.1	.....	.....	9	NNW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.32	770.1	30.39	771.9	61.5	16.4	66	NE	9.4	4.2	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. B. C. da Silva Costa, Bulama, Bissago Islands, Africa	.....	.....	.....	.....	82.4	28.0	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky	J.T.d'Oliveria, Com'd'r.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Pereira, 2nd Lieut.
Sado, Capt. J. A de Brito Capello. Bahal de Cairo, about S. 13°, E. 13°	.....	.....	29.80	756.8	75.2	24.0	.....	W	.....	.....	3	.....	3	.....	W	2	W	D. clouds	F. Teixeira da Silva, Com'd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.32	770.0	59.0	15.0	.....	N	.....	.....	4	.....	10	.....	N	2	.....	Foggy, 10 hr's rain-fall.	F. de Assis Camillo, jun., Q. M.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.87	758.6	29.89	759.1	— 1.8	—18.7	85	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.21	767.4	30.13	765.3	9.0	—12.8	73	S	2	1	.....	.....	6s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.95	760.7	30.54	775.8	—22.9	—30.5	93	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.80	756.9	30.07	763.7	15.4	— 9.2	91	WNW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.85	732.8	29.94	760.5	—12.5	—24.7	78	ENE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.35	745.4	29.65	753.0	— 1.5	—18.6	87	W	2	1	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.15	740.4	29.83	757.7	—17.4	— 8.1	91	N	7	3	.....	.....	10km	.....	.....	.....	.....	Snowing	Physical Cabinet.
Krotkowo*	29.27	743.5	29.80	756.9	— 3.8	—10.9	66	W	2	1	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.63	752.5	29.85	758.2	6.6	—14.1	79	E	4	2	.....	.....	10	.....	.....	Blank	Blank	Light snow.	Meteorological Obs.
Moscow	29.34	745.1	29.96	761.0	— 8.7	—22.6	76	S	4	2	.....	.....	5s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.75	704.8	30.37	771.3	—13.0	—25.0	63	Calm	0	0	.....	.....	5	.....	.....	.....	.....	(Light clouds	Meteorological Obs.
Nikolaiev	29.85	758.1	29.92	759.9	27.7	— 2.4	79	NW	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.59	751.5	29.83	757.7	33.8	1.0	82	Calm	0	0	.....	.....	4n	.....	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.60	777.3	30.74	780.9	11.3	—11.5	36	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	.....
St. Petersburg	29.91	759.8	29.93	760.2	11.3	—11.5	93	NNW	9	4	.....	.....	10km	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.70	729.0	30.35	770.9	35.2	1.8	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tiflis	28.71	729.1	30.21	767.3	29.7	— 1.3	55	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	Foggy	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light clouds	Physical Observatory.
Warsaw	29.89	757.0	30.25	768.4	27.3	— 2.6	72	NNW	11	6	.....	.....	1ks	.....	.....	.....	.....	.....	.....
Wilna	29.64	752.9	30.09	764.2	21.7	— 5.7	73	NNW	7	3	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	29.57	776.5	30.91	785.2	—24.2	—31.2	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.95	760.7	30.06	763.4	49.1	9.5	58	NNE	2.0	0.89	.....	.....	9	.....	.....	.....	.....	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.2	29.99	761.7	51.8	11.0	47	SE	3.1	1.37	.....	3	2	E	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.2	.....	.....	37.8	3.2	76	S	5.8	2.59	.....	0	5	.....	.....	0	0	Cloudy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.76	705.1	30.08	764.1	38.7	3.7	74	NE	6.7	3.00	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.88	759.0	30.04	762.9	55.0	12.8	62	NW	3.0	1.33	.....	0	2	.....	.....	0.037	0.95	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.97	735.9	29.90	759.4	39.7	4.3	88	SW	7.4	3.3	.....	.....	10	.....	.....	0.047	1.2	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.81	757.1	29.87	758.8	72.5	22.5	89	SSE	6.3	2.8	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.97	761.1	30.02	762.4	79.5	26.4	85	NE	.....	.....	.....	3ck	4ks	SW	NE	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.96	761.0	30.06	763.6	53.8	12.1	73	Calm	0	0	.....	0	10	.....	SE	0.199	5.1	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	69.8	21.0	91	SW	0	0	.....	6c	5kn	E	SW	0.089	2.25	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.97	761.2	30.01	762.2	12.9	—10.6	.....	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	30.02	762.5	30.07	763.8	22.3	— 5.4	96	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	30.07	763.7	30.12	765.0	28.5	— 1.4	80	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Stockholm	30.10	764.6	30.28	769.1	22.6	— 5.2	71	WNW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	30.13	765.3	30.19	766.8	30.2	— 1.0	84	N	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.12	765.1	30.21	767.3	27.9	— 2.8	70	W	0	0	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 11° 08′, W. 74° 35′	.....	.....	29.82‡	757.3‡	77.7	—25.4	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.78	731.0	30.31	769.8	21.7	— 5.7	85	ENE	.....	.....	3	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.59	726.2	30.36	771.1	18.7	— 7.4	74	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are; Barometer, +3.6 mm.; Thermometer, —7.5 Cent. Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.28	769.0	33.8	1.0	100	SW	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.18	766.6	46.0	7.8	.....	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'ty	.....	.....	30.16	766.1	52.0	11.1	70	NNW	.....	.....	2	.....	10n	.....	NW	0.165	4.19	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B.	29.95	760.7	30.02	762.5	3.8	—15.7	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.92	760.0	29.96	761.0	18.0	— 7.8	84	W	8	3.6	.....	0	6s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.06	763.5	13.0	—10.6	100	W	.....	.....	1	0	6s	.....	.....	0	0	Fair	James Smith, M. A
Dalhousie, N. B.	29.84	757.9	30.02	762.5	12.5	—10.8	.....	W	1	0.4	.....	0	5ks	.....	.....	0	0	Fair	H. A. Johnson.
Father Point, Quebec	30.01	762.2	30.04	763.0	13.3	—10.4	82	NW	25.0	11.2	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	J. McWilliams.
Fredericton, N. B.	30.01	762.2	30.08	764.0	13.8	—10.1	78	N	7	3.1	.....	0	1s	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.75	730.2	29.61	752.1	19.0	— 7.2	100	SE	16	7.2	.....	0	5n	.....	.....	0	0	Threatening	James Stewart.
Granton, Ontario	28.85	732.8	30.00	762.0	29	— 1.7	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	29.92	760.0	30.06	763.5	21.7	— 5.7	93	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	A. Allison.
Hamilton, Ontario	29.68	753.9	30.06	763.5	33.5	0.8	96	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.72	754.9	30.06	763.5	31.5	— 0.3	86	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S.	29.89	759.2	29.93	760.2	23.2	— 4.9	86	W	8	3.6	.....	6k	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.89	759.2	30.11	764.8	18.0	— 7.8	81	SE	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.71	754.6	29.75	755.6	13.2	—10.4	100	Calm	.....	.....	0	.....	10	.....	.....	0.10	2.5	Cloudy	J. R. Nesson.
Norwood	29.21	741.9	29.95	760.7	18.3	— 7.6	100	SE	2	0.9	.....	.....	5ks	.....	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.22	742.2	29.94	760.5	28.0	— 2.2	88	S	4	1.8	.....	5k	5ks	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.33	745.0	30.05	763.3	33.0	0.6	89	SW	8	3.6	.....	8ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.38	746.2	30.06	763.5	34.0	1.1	85	SW	12	5.4	.....	2ck	Haze	W	.....	0	0	Hazy	M. Payne.
Quebec, Quebec	29.78	756.4	30.13	765.3	5.0	—15.0	62	W	.....	.....	3	0	0	.....	.....	0.25	6.3	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.49	749.0	29.98	761.5	18.1	— 7.7	87	E	5	2.2	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing	W. H. McIntyre.
St. John, N. B.	29.92	760.0	30.10	764.5	18	— 7.8	84	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Sangeen, Ontario	29.23	742.4	29.97	761.2	35.0	1.7	90	SW	12	5.4	.....	.....	10ks	.....	.....	0.01	0.3	Overcast	Miss K. Stewart.
Stratford, Ontario	28.70	729.0	30.04	763.0	26.0	— 3.3	91	S	5.0	2.2	.....	1cs	2s	.....	.....	0	0	Clear	C. J. MacGregor, M. A
Sydney, C. B.	29.87	758.7	29.91	759.7	22.0	— 5.6	75	W	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.64	752.8	30.04	763.0	30.4	— 0.9	86	SW	6	2.7	.....	0	2s	.....	.....	0	0	Clear	Magnetic Observatory
Windsor, N. S.	29.92	760.0	30.03	762.7	22.0	— 5.6	93	W	12	5.4	.....	1cs	1ks	.....	.....	0	0	Fair	Prof. John E. Oram, M.A
Woodstock, Ontario	28.92	734.6	30.04	763.0	29.2	— 1.6	90	S	10	4.5	.....	5cs	1s	.....	.....	0	0	Fair	Professor Wolverton.
Yarmouth, N. S.	30.00	762.0	30.07	763.8	27.0	— 2.8	73	NW	8	3.6	.....	3cs	0	W	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.15	740.4	29.41	747.0	32	0.0	90	W	.....	.....	.....	.....	10n	.....	.....	Inap.	Inap.	Threatening	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.76	755.9	23.7	— 4.6	.....	NW	.....	.....	4	.....	n	.....	.....	0	0	Cloudy	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.94	760.5	30.18	766.6	27	— 2.8	76	S	3	1.3		0	8s		W	0	0	Fair..	
Alpena, Michigan	29.28	743.7	29.95	760.7	28	— 2.2	88	SW	4	1.8			10s		W	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.92	734.6	30.13	765.3	32	0.0	69	NE	10	4.5			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.21	767.3	30.23	767.8	30	— 1.1	89	NW	2	0.9		8c	Fog	W	Calm	0	0	Fair	
Augusta, Georgia	29.97	761.2	30.18	766.6	40	4.4	91	N	5	2.2		5cs	2s	SW	SW	0	0	Fair...	
Baltimore, Maryland	30.19	766.8	30.24	768.1	33	0.6	70	Calm	0	0		2c	Haze	Calm	Calm	0	0	Fair...	
Barnegat, New Jersey	30.18	766.6	30.20	767.1	28	— 2.2	88	NE	3	1.3		5c	Haze	W	Calm	0	0	Fair...	
Bismarck, Dakota	27.56	700.0	29.42	747.3	33	0.6	79	S	6	2.7			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.59	726.2	29.97	761.2	33	0.6	70	NW	3	1.3		0	0			0.20	5.1	Clear.	
Boise City, Idaho	26.74	679.2	29.70	754.4	40	4.4	91	NW	18	8.0			10n		Calm	0.12	3.0	Light rain	
Boston, Massachusetts	30.04	763.0	30.20	767.1	26	— 3.3	75	W	6	2.7		2c	5s	W	W	0	0	Fair..	
Brackettville, Texas	28.91	734.3	30.02	762.5	33	0.6	89	N	2	0.9		0	0			0	0	Clear	
Breckenridge, Minnesota	28.56	725.4	29.60	751.8	18	— 7.8	100	S	12	5.4			8s		Calm	0	0	Cloudy	
Brownsville, Texas	30.01	762.2	30.06	763.5	51	10.6	93	N	8	3.6			10s		Calm	0.83	11.1	Cloudy	
Buffalo, New York	29.32	744.7	30.04	763.0	35	1.7	70	S	11	4.9		0	0			0	0	Clear.	
Burkes, Arizona																			
Burlington, Vermont	29.84	757 9	30.14	765.5	25	— 3.9	75	S	5	2.2		5ck	5s	W	S	0	0	Cloudy	
Cairo, Illinois	29.75	755.6	30.16	766.1	41	5.0	65	S	6	2.7		0	Haze			0	0	Clear.	
Campo, California																			
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	51	10.6	79	NE	24	10.7		0	5ks		NE	0	0	Fair...	
Cape Henry, Virginia	30.17	766.3	30.19	766.8	43	6.1	59	NE	14	6.3		5cs	0	Calm		0	0	Fair	
Cape Lookout, N. Carolina	30.08	764.0	30.10	764.5	48	8.9	78	NE	26	11.6			10s		E	0	0	Cloudy	
Cape May, New Jersey	30.20	767.1	30.23	767.8	38	3.3	71	W	1	0.4		5ck	0	N		0	0	Fair	
Castroville, Texas																			
Cedar Keys, Florida	29.93	760.2	29.95	760.7	51	10.6	86	NE	14	6.3			10s		Calm	0.21	5.1	Cloudy	
Charleston, South Carolina	30.00	762.0	30.05	763.3	45	7.2	92	N	12	5.4			10n		Calm	0.03	0.8	Light rain	
Charlotte, North Carolina	29.28	743.7	30.14	765.5	32	0.0	58	N	5	2.2		5cs	Sm'e	W	Calm	0	0	Fair...	
Chattanooga, Tennessee	29.33	745.0	30.18	766.6	30	— 1.1	78	NE	3	1.3		10cs	Sm'e	Calm	Calm	0	0	Cloudy	
Cheyenne, Wyoming	23.72	602.5	29.60	753.4	41	5.0	19	W	12	5.4			10s		Calm	0	0	Cloudy	
Chicago, Illinois	29.26	743.2	29.96	761.0	39	3.9	64	SW	5	2.2			10s		Calm	Inap.	Inap.	Fair...	
Cincinnati, Ohio	29.47	748.5	30.14	765.5	36	2.2	71	SE	2	0.9		0	8s		Calm	0	0	Clear.	
Cleveland, Ohio	29.32	744.7	30.06	763.5	34	1.1	61	S	9	4.0		2c	0	Calm		0	0	Clear	
Coleman City, Texas	28.24	717.3	29.97	761.2	36	2.2	61	W	13	5.8		0	0			0	0	Clear	
Columbus, Ohio	29.25	742.9	30.13	765 3	34	1.1	52	S	2	0.9		2cs	Sm'e	S	Calm	0	0	Fair...	
Concho, Texas	28.12	714.2	29.89	759.2	30	— 1.1	78	Calm	0	0		0	0			0	0	Clear.	
Corsicana, Texas	29.59	751.6	30.08	764.0	41	5.0	57	S	3	1.3		0	0			0	0	Clear	
Davenport, Iowa	29.27	743.4	29.92	760.0	34	1.1	79	Calm	0	0		0	0			Inap.	Inap.	Clear.	
Dayton, Washington T'y					29	— 1.7	89	SW			1	0	5s		SW	0.14	3.6	Fair...	
Deadwood, Dakota	24.90	632.4			41	5.0	41	S	12	5.4			10s		Calm	0	0	Cloudy	
Decatur, Texas	28.85	732.8	30.00	762.0	63	17.2	52	SE	4	1.8		0	0			0	0	Clear.	
Denison, Texas	29.23	742.4	30.05	763.3	41	5.0	57	SE	6	2.7		0	0			0	0	Clear.	
Denver, Colorado	24.48	621.8	29.70	754.4	36	2.2	45	SE	6	2.7		2ck	0	Calm		0	0	Fair...	
Des Moines, Iowa	28.91	734.3	29.81	757.2	34	1.1	79	SW	4	1.8		0	0			0	0	Clear.	
Detroit, Michigan	29.34	745.2	30.03	762.7	31	— 0.6	89	SW	5	2.2		0	2s		Calm	0	0	Clear.	
Dodge City, Kansas	27.25	692.1	29.91	752.1	29	— 1.7	45	SW	6	2.7		0	2s		Calm	0	0	Fair...	
Dubuque, Iowa	29.19	741.4	29.71	754.6	27	— 2.8	76	SW	1	0.4		0	Fog		Calm		0	Foggy	
Duluth, Minnesota	29.12	739.6	29.84	757.9	15	— 9.4	65	NW	1	0.4		0	0				0	Clear.	
Eagle Pass, Texas	29.36	745.7	30.12	765.0	40	4.4	65	Calm	0	0		0	0			0	0	Clear.	
Eastport, Maine	30.03	762.7	30.10	764.5	18	— 7.8	68	NW	8	3.6		0	0			0	0	Clear	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.32	744.7	30.05	763.3	35	1.7	70	S	8	3.6		Haze	0	Calm		0	0	Clear.	
Escanaba, Michigan	29.25	742.9	29.97	761.2	4	—15.6	48	NE	1	0.4		0	0			0	0	Clear.	
Florence, Arizona	28.53	724.6	30.13	765.3	38	3.3	63	E	3	1.3		0	0			0	0	Clear.	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.23	691.6	29.03	737.3	31	— 0.6	89	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.18	665.0			47	8.3	48	SW	7				10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.16	639.0	30.12	765.0	40	4.4	55	SW	5	2.2		0	0			0	0	Clear.	
Fort Gibson, Indian Ter	29.49	749.0	30.05	763.3	37	2.8	53	SE	4	1.8		0	0			0	0	Clear.	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	35	1.7	21		8	3.6		2c	0	Calm		0	0	Clear.	
Fort Griffin, Texas	28.75	730.2	30.08	764.0	33	0.6	79	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	26.62	676.1			33	0.6	89	SW	8	3.6			10ks		SW	0	0	Threatening	
Fort McKavett, Texas	27.74	704.6	29.76	755 9	28	— 2.2	32	W	6	2.7		0	0			0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.78	731.0	29.93	760.2	32	0.0	79	Calm	0	0		0	0			0.02	0.5	Clear.	
Fort Stevenson, Dakota	27.52	699.0			30	— 1.1	89	E	8	3.6			10s		E	0	0	Clear.	
Fort Verde, Arizona					23	— 5.0	60	N			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.70	716.3	29.79	756.7	45	7.2	61	SW	3	1.3		0	0			0	0	Clear	
Galveston, Texas	30.00	762.0	30.04	763.0	52	11.1	40	NE	10	4.5		Haze	5ks	Calm	E	0	0	Fair...	
Graham, Texas	28 94	735.1	30.05	763.3	28	— 2.2	88	Calm	0	0		0	0			0	0	Clear.	
Grand Haven, Michigan	29.28	743.7	29.95	760.7	32	0.0	79	S	3	1.3		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.08	738.6	30.06	763.5	33	0.6	70	W	4	1.8		0	0			0	0	Clear.	
Indianapolis, Indiana	29.24	742.7	30.05	763.3	36	2.2	61	SE	3	1.3			10s		Calm	0	0	Cloudy	
Indianola, Texas	30.04	763.0	30.06	763.5	54	12.2	46	N	15	6.7		0	0			Inap.	Inap.	Clear	
Jacksboro, Texas	28.85	732.8	30 00	762.0	35	1.7	80	SW	2	0.9		0	0			0	0	Clear	
Jacksonville, Florida	29.37	761.2	29 99	761.7	49	9.4	85	N	10	4.5			10s		Calm	0.22	5 6	Cloudy	
Keokuk, Iowa	29.26	743.2	29.88	758.9	43	6.1	67	SW	7	3.1		0	1s		Calm	0	0	Clear.	
Key West, Florida	29.85	758.2	29.88	758.9	74	23.3	90	S	10	4.5		5k	0	S		0	0	Fa ir	
Kittyhawk, North Carolina	30.16	766.1	30.18	766.6	45	7.2	68	E	20	8.9		0	0			0	0	Clear.	
Knoxville, Tennessee	29.16	740.7	30.23	767.8	26.5	— 3.1	94	NE	1	0.4			10s		SW	0	0	Cloudy	
La Crosse, Wisconsin	29.09	738.9	29.86	758.4	25	— 3.9	87	S	1	0.4		0	0			0	0	Clear	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	22	— 5.6	58	Calm	0	0		1c	0	Calm		0	0	Clear.	
Laredo, Texas	29.78	756.4	30.13	765.3	55	12.8	87	N	4	1.8		0	0			0.17	4.3	Clear.	
Leavenworth, Kansas	29.04	737.6	29.91	759.7	35	1.7	70	S	4	1.8		0	0			0	0	Clear.	
Lewiston, Idaho																			
Little Rock, Arkansas	29.75	755.6	30.12	765.0	38	3.3	81	Calm	0	0		0	0			0	0	Clear.	
Los Angeles, California	29.70	754 4	30.05	763.3	42.0	5.6	70	NE	3	1.3		2c	2s	SW	SW	0	0	Fair...	
Louisville, Kentucky	29.52	749 8	30.10	764.5	39	3.9	73	SE	2	0.9		0	Sm'e		Calm	0	0	Clear.	
Lynchburg, Virginia	29.49	749.0	30.21	767.3	28	— 2.2	77	W	4	1.8		0	2c		Calm	0	0	Fair...	
Madison, Wisconsin	28.90	7 4.0	29.93	760.2	19	— 7.2	85	S	1	0.4		0	Haze		Calm	0	0	Clear	
Marquette, Michigan	29.18	741.1	29.91	759.7	23	— 5.0	60	W	8	1.3		0	0			0	0	Clear.	
Mason, Texas	28.41	721.6	30.26	768.6	32	0.0	79	W	3	1.3		0	0			0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.12	765.0	37	2.8	62	E	3	1.3		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.19	741.4	29.95	760.7	28	— 2.2	77	SW	3	1.3		0	1s		Calm	0	0	Clear.	
Mobile, Alabama	30.02	762.5	30.07	763.8	44	6.7	68	NE	6	2.7			10s		Calm	0	0	Cloudy	
Montgomery, Alabama	29.91	759.7	30.16	766.1	39	3.9	81	NE	3	1.3			10s		Calm	0	0	Cloudy	
Morgantown, West Virginia	29.15	740.4	30.19	766.8	32	0.0	79	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23 59	599.2	29.95	760.7	9	—12.8	78	NW	42	18.8		10k	2ks	Calm	NW	0	0	Cloudy	
Nashville, Tennessee	29.63	752.6	30.19	766.8	35	1.7	70	Calm	0	0		0	2ks		SW	0	0	Fair	
New Haven, Connecticut	30.10	764.5	30.22	767.6	28	— 2.2	88	Calm	0	0		2cs	Fog	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.15	765.8	30.20	767.1	29	— 1.7	78	Calm	0	0		5cs	0	W		0	0	Fair	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	50	10.0	51	E	14	6.3			10s		Calm	0	0	Cloudy	
Newport, Rhode Island	30.14	765.5	30.20	767.1	30.5	— 0.8	74	W	8	3.6		5ck	0	NW		0	0	Fair	
New River, North Carolina					41	5.0	75	N			4		10s		Calm			Cloudy	
New York, New York	30.03	762.7	30.22	767.6	30	— 1.1	89	Calm	0	0		2cs	Haze	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.15	765 8	30.21	767.3	39	3.9	73	NE	3	1.3		5cs	Fog	Calm	Calm	0	0	Fair	
North Platte, Nebraska	26.74	679.2	29.35	745.5	28	— 2.2	66	NW	4	1.8		8cs	Haze	Calm	Calm	0	0	Cloudy	
Olympia, Washington Ter	29.79	756.7	29.83	757.7	34.0	1.1	84	SW	6	2.7		0	0			0.91	23.1	Clear	
Omaha, Nebraska	28.59	726.2	29.71	754.6	32	0.0	69	S	7	3.1		0	0			0	0	Clear	
Oswego, New York	29.76	755.9	30.10	764.5	29	— 1.7	78	S	8	3.6		Haze	0			Inap.	Inap.	Clear	
Pembina, Dakota	28.63	727.2	29.50	749.3	13	—10.6	100	S	12	5.4			10s		Calm	0	0	Cloudy	
Pensacola, Florida	30.06	763.5	30.09	764.3	44	6.7	68	NE	12	5.4			10s		NE	0	0	Cloudy	
Philadelphia, Pennsylvania	30.16	766.1	30.22	767.6	36	2.2	80	Calm	0	0		0	Fog		Calm	0	0	Clear	
Phœnix, Arizona	28.87	733.3	30.77	781.5	35	1.7	61	E	4	1.8		0	0			0	0	Clear	
Pike's Peak, Colorado	17.35	440.7	29.56	750.8	8	—13.3	55	NW	48	21.5		10cs	0			0	0	Cloudy	
Pilot Point, Texas	29.27	743.4	30.13	765.8	38	3.3	30	S	7	3.1		0	0			0	0	Clear	
Pioche, Nevada	24.08	611.6	29.86	758.4	30	— 1.1	78	S	5	2.2		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.32	744.7	30.17	766.3	33	0.6	70	Calm	0	0		0	0			0	0	Clear	
Port Huron, Michigan	29.31	744.5	30.00	762.0	32	0.0	79	S	9	4.0		5cs	0	Calm		0	0	Fair	
Portland, Maine	30.07	763.8	30.13	765.3	24	— 4 4	74	SW	1	0.4			10s		Calm	0	0	Cloudy	
Portland, Oregon	29.87	758.7	29.94	760.5	35.5	1.9	90	NW	3	1.3		0	5ks		NW	1.03	26.2	Fair	
Portsmouth, North Carolina					50	10.0	79	NE	32	14.3		8cs	0	SW		0	0	Cloudy	
Prescott, Arizona	24.73	628.1	30.09	764.3	26	— 3.3	63	S			1	0	5ks		Calm	0	0	Fair	
Punta Rassa, Florida	29.84	757.9	29.85	758.2	64	17.8	94	NE	6	2.7			Fog		NE	0.30	7.6	Foggy	
Red Bluff, California	29.55	750.6	29.92	760.0	45	7.2	53	W	22	9.8		0	0			0.07	1.8	Clear	
Rio Grande City, Texas	29.95	760.7	30.18	766.6	47	8.3	92	N	5	2.2			10s		Calm	0.18	4.6	Cloudy	
Rochester, New York	29.42	747.3	30.06	763.5	33	0.6	79	SW	8	3.6		0	2s		SW	0	0	Clear	
Roseburg, Oregon	29.47	748.5	30.06	763.5	35.5	1.9	95	SW	4	1.8		2k	0	NW		1.01	25.7	Fair	
Sacramento, California	29.87	758.7	29.95	760.7	48	8.9	59	SW	8	3.6		0	5s		S	0.01	0.3	Fair	
St. Louis, Missouri	29.44	747.8	30.03	762.7	40	4.4	56	SW	8	3.6		0	Sm'c			0	0	Clear	
St. Paul, Minnesota	28.90	734.0	29.76	755.9	19	— 7.2	85	E	8	3.6		0	0			0	0	Clear	
Salt Lake City, Utah	25.29	642.4	29.62	752.3	40	4.4	31	SE	28	12.5			10s		Calm	0	0	Cloudy	
San Antonio, Texas	29.37	746.0	29.97	761.2	40	4.4	91	N	1	0.4		0	0			0.42	10.7	Clear	
San Diego, California	30.00	762.0	30.07	763.8	43	6.1	83	SE	2	0.9		2cs	2s	W	W	0	0	Fair	
Sandusky, Ohio	29.30	746.5	30.08	764.0	35	1.7	70	S	11	4.9		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.18	766.6	30.21	767.3	35	1.7	70	Calm	0	0		0	0			0	0	Clear	
San Francisco, California	29.95	760.7	30.01	762.2	49	9.4	81	NW	13	5.8		0	2s		W	0.16	4.1	Clear	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	17	— 8.3	35	NE	7	3.1		0	0			0	0	Clear	
Savannah, Georgia	29.98	761.5	30.08	764.0	45	7.2	84	N	9	4.0			10n		NE	0.02	0.5	Light rain	
Shreveport, Louisiana	29.86	758.4	30.09	764.3	39	3.9	64	Calm	0	0		0	Fog		Calm	0	0	Foggy	
Silver City, New Mexico																			
Smithville, North Carolina	30.06	763.5	30.10	764.5	41	5.0	82	N	12	5.4		8k	2s	W	Calm	0	0	Cloudy	
Socorro, New Mexico	25.42	645.7	29.48	748.8	20	— 6.7	56	Calm	0	0		0	0			0	0	Clear	
Springfield, Illinois	29.32	744.7	30.01	762.2	42	5.6	66	S	10	4.5		0	2ks		SW	0.04	1.0	Fair	
Springfield, Massachusetts	30.06	763.5	30.20	767.1	27	— 2.8	76	S	2	0.9		0	2s		S	0	0	Fair	
Stockton, Texas	27.02	686.3	30.02	762.5	32	0.0	30	NE	4	1.8		0	0			0	0	Clear	
Thatcher's Island, Mass	30.13	765.3	30.18	766.6	35	1.7	80	W	10	4.5		0	0			0	0	Clear	
Toledo, Ohio	29.84	757.9	30.05	763.3	36	2.2	80	S	8	3.6			8s		SW	0	0	Cloudy	
Tucson, Arizona	27.59	700.8	30.14	765.5	34	1.1	43	S	2	0.9		1c	0	SE		0	0	Clear	
Umatilla, Oregon	29.47	748.5	29.98	761.5	33	0.6	79	W	16	7.2		0	0			Inap.	Inap.	Clear	
Uvalde, Texas	29.17	740.9	30.02	762.5	35	1.7	80	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	29.85	758.2	30.11	764.8	43	6.1	43	E	7	3.1			10s		Calm	0	0	Cloudy	
Virginia City, Montana	23.61	599.7	29.69	738.0	35	1.7	70	SW	16	7.2			10s		Calm	0	0	Threatening	
Visalia, California	29.57	751.1	29.95	760.7	50	10.0	65	SE	8	1.3			10s		Calm	0	0	Cloudy	
Washington, D. C.	30.11	764.8	30.23	767.8	27	— 2.8	88	Calm	0	0		5c	Sm'c	W	Calm	0	0	Fair	
Wickenburg, Arizona					26	— 3.3	75	NW			1	2c	0	W		0	0	Fair	
Wilmington, North Carolina	30.02	762 5	30.10	764.5	41	5.0	65	NE	6	2.7			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	25.29	642.4	29.65	753.1	40	4.4	56	SW	25	11.2			9s		SW	0	0	Cloudy	
Wood's Holl, Massachusetts	30.15	765.8	30.20	767.1	32	0.0	69	NW	6	2.7		5cs	5s			0	0	Cloudy	
Yankton, Dakota	28.35	720.1	29.69	754.1	22	—5.6	58	SE	4	1.8			10s		Calm	0	0	Clear	
Yuma, Arizona	29.87	758.7	30.02	762.5	40	4.4	65	E	3	1.3		0	0			0	0	Clear	
Sub-Series.																			
Bogota, U. S. Columbia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	29.79	756.7	29.84	757.9	75	23.9	85	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	73	22.8	72	Calm	0	0		2c	2cs	Calm		0	0	Fair	James Gall.
Navassa, W. I.	29.85	758.2	29.93	760.2	74	23.3	74												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.91	759.7	80	26.7	87	E			2	5k	8ks	E		1.840	46.74	⅞ cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.21	741.9	29.76	755.9	82	27.8	95	Calm			0		2k			0	0		Francesco J. Cisneros.
Santiago de Cuba, W. I.	29.94	760.5	29.96	761.0	72	22.2	81	Calm	0	0		0	0			0	0		Robert Mason
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.85	758.2	29.91	759.7	— 6.0	—21.1	81	E	11	4.9		2c	0	E		0	0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,933 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 364 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 6.94 in., or 180.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla...	30.14‡	765.5‡	.....	.....	50	10.0	86	NNE	10	4.5	.....	.....	10	.....	E	.....	.....	.....	.....	Threatening	
Alaska, Coquimbo, Chili.....	29.88‡	758.9‡	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	2	.....	S	.....	.....	.....	.....	D. clouds.....	
Colorado, New York, N. Y.....	30.16‡	766.1‡	.....	.....	39	3.9	100	WNW	0	0	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Constitution, Frederickstoed, Santa Cruz, W. I.	30.06‡	763.5‡	.....	.....	71	21.7	80	NE	.....	.....	2	.....	1?	.....	NE	.....	.....	.....	.....	Cloudy?.....	
Enterprise, Gulf of Smyrna.....	30.32‡	770.1‡	.....	.....	42	5.6	66	ENE	.....	.....	3	.....	1	.....	ENE	.....	.....	Mod'ate	.....	Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	30.22‡	767.6‡	.....	.....	36	2.2	100	ENE	1.2	0.5	.....	.....	2	.....	WSW	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	29.98‡	761.5‡	.....	.....	44	6.7	??	SW	3.6	1.6	.....	.....	9	.....	SW	0.29	7.4	.....	.....	Cloudy.....	
Kearsarge, Key West, Fla.....	29.89‡	759.2‡	.....	.....	76	24.4	91	S	.....	.....	2	.....	8	.....	S	.....	.....	Smooth	.....	Cloudy.....	
Lackawana, N. 34° 40', W. 140° 35'...	30.52‡	775.2‡	.....	.....	54	12.2	80	NE	.....	.....	5	.....	10	.....	NE	.....	.....	Rough	NE	Cloudy.....	
Marion, S. 10° 30', W. 35° 24'.....	29.88‡	758.9‡	.....	.....	82	27.8	79	ENE	.....	.....	5	.....	10?	.....	ENE C.	Light	Light	Smooth.	E	Clear?.....	
Michigan, Erie, Pa.....	30.04‡	763.0‡	.....	.....	35	1.7	80	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China..	30.52‡	775.2‡	.....	.....	31	— 0.6	69	NW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.06‡	763.5‡	.....	.....	47	8.3	85	NE	9	4.0	.....	.....	10	.....	Calm	0.05	1.3	.....	.....	Raining	
Nipsic, La Guayra, Venezuela, S. A.....	29.88‡	758.9‡	.....	.....	75	23.9	81	ENE	.....	.....	2	.....	5	.....	ENE	.....	.....	Long	ENE	D. clouds.....	
Onward, Callao, Peru	29.87‡	758.7‡	.....	.....	68	20.0	95	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Misty.....	
Palos, Tientsin, China.	30.70‡	779.8‡	.....	.....	18	— 7.8	100	NNW	.....	.....	3–5	.....	0	.....	.....	.....	.....	.....	.....	Squally.....	
Passaic, Washington, D. C.....	30.25‡	768.3‡	.....	.....	26	— 3.3	100	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Callao, Peru	29.86‡	758.4‡	.....	.....	68	20.0	90	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds.....	
Powhatan, Off Ellis I'd., N. Y. Harbor	30.19‡	766.8‡	.....	.....	33	0.6	79	SW	.....	.....	1	.....	2	.....	SSW	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy.....	30.16‡	766.1‡	.....	.....	49	9.4	57	E	.....	.....	3	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Ranger. N. 34° 20', W. 144° 20'.....	30.48‡	774.2‡	.....	.....	54	12.2	74	ENE	.....	.....	6	.....	10	.....	NE	.....	.....	Mod'ate	NE	Cloudy.....	
Richmond, Hong-Kong, China.....	30.23‡	767.8‡	.....	.....	53	11.7	100	N	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Rainy.....	
Rio Bravo, Brownsville, Texas...	30.27‡	768.8‡	.....	.....	52	11.1	100	NNW	.5	2.2	..	.....	10	.....	SW	0.57	14.5	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.25‡	768.3‡	.....	.....	31	— 0.6	.....	W	.....	.....	0–1	.....	8	.....	W	0	0	.....	.....	Fair.....	
Shenandoah, Montevideo, Uruguay...	29.68‡	753.9‡	.....	.....	74	23.3	74	S	.....	.....	4	.....	10	.....	S	.....	.....	Smooth.	.....	Cloudy.....	
St. Louis, League Island, Pa.....	30.22‡	767.6‡	.....	.....	28	— 2.2	.....	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Swatara, N. 41° 39', W. 59° 50'....	30.08‡	764.0‡	.....	.....	41	5.0	82	WNW	.....	.....	4	.....	8	.....	NW	.....	.....	Long	W	Cloudy.....	
Tennessee, Norfolk, Va.....	30.20‡	767.1‡	.....	.....	38	3 3	91	ENE	1	0.4	.....	.....	8	.....	Calm	0	0	.....	.....	D. clouds ...	
Trenton, Port Mahon, Minorca, Med.....	30.02‡	762.5‡	.....	.....	59	15.0	70	NE	.....	.....	2	.....	8	.....	N	Blank	Blank	.....	.....	Cloudy.....	
Tuscarora, La Union, S. Salvador.	29.86‡	758.4‡	.....	.....	76	24.4	82	W	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.	
Wabash, Boston, Mass.....	30.20‡	767.1‡	.....	.....	26	— 3.3	88	W	2	0.9	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, Villafranca, France.....	30.11‡	764.8‡	.....	.....	49	9.4	39	NE	.....	.....	2–3	.....	8	.....	NE	.....	.....	Mod a e	NE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm

*Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 54° 19′, W. 18° 38′		29.83‡	757.7‡	48	8.9		WNW			6		10		W		Cross	NW	Cloudy	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent																			
Delaware Bay, Del.		30.33‡	770.4‡	38	3.3		Calm			0		1		W	0	Smooth		Clear.	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 46° 48′, W. 27° 19′		30.31‡	769.9‡	58.5	12.5	77	W			4		8		NNW	0	Mod'ate	NW; W	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 29′, W. 59° 32′		30.05‡	763 3‡				WSW			2		5		SW		Long	E	Cloudy?	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 28′, W. 102° 36′	†	29.94‡	760.5‡	64	17.8	89	ESE			5		10		E		Mod'ate	ESE	Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, Yokohama, Japan	†	30.22‡	767.6	41	5.0		NE			3		k		NE	0	Smooth		D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Seattle Harbor, Washington Terr		29.68‡	753.9‡	37	2.8		S			1		5		S				Snowing	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China, ...f		30.20‡	767.1‡	56	13.3	75	NNE			3		10			0	Smooth		Misty	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 30° 38′, W. 141° 34′		30.37‡	771.4‡				NE			6				NE		Heavy	NE	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson N. 47° 11′, W. 41° 34′		29.61‡	752.1‡	56	13.3		S	40	17.9			10		SSW	0	Heavy	SSW	Cloudy	
S. S. Nederland, S. Stokes, Portland Abeam, N 50°, W. 2°...		30.05‡	763.3‡				ESE			3		2		SE	0			Fine	J. Farmer & W. Apetan.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 48° 51′, W. 29° 49′		30.12‡	765.0‡	52	11.1		WSW			5		5		WSW	0	High	W	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 41° 30′, E. 20° 00′	*	30.00‡	762.0‡	60	15.6		NNW			4		10		NNW		Cross	S	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.	†	30.16‡	766.1‡	76	24.4		ENE			4		2		E	Showers	Smooth		Clear	
Iron Cross, W. Randall																			W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

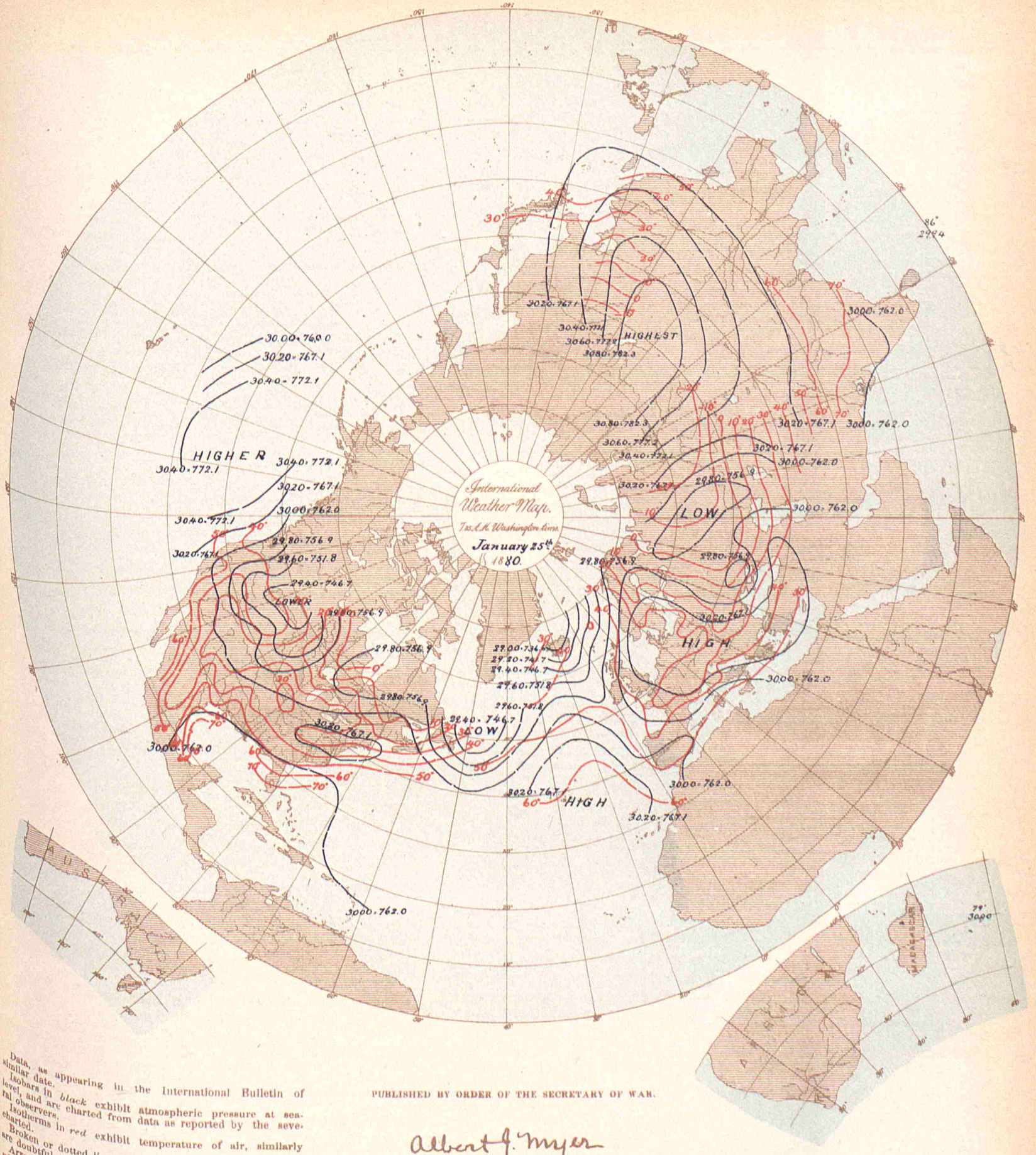
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, tracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 26, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.02	762.5				SW			4		9			0.354	9.0	Covered.	
Algiers			29.88	758.9	57.0	14.2	86	N			1		9			0	0	Covered.	Kesxuche.
La Calle			29.90	760.9	55.4	13 0	57	NNW			2		0			0.197	5.0	Clear.	Tourillere.
Tunis			29.92	760.0	57.0	13.9	74	WSW			2		7			0.091	2.3	Very cloudy	Foufrede.
Sfax																			Jacques.
Saida			29.98	761.5															Gau.
Tebessa			29.88	758.9															Herbin.
Geriville			30.07	762.9	42.4	5.8	82	N			2		8			0.268	6.8	Very cloudy	Watrin.
Laghouat								NW			1		2			0	0	Fair	Brugniaux.
Biskra			30.00	762.1	48.9	9.4	46	WNW			1		8			0	0	Very cloudy	Bertrand.
			29.93	760.2	59.7	15.4	76	NW			1		0			0	0	Clear	Chauvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 800? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.93	760.1	30.52	775.3	22.3	— 5.4	93					10				0	0		Prof. Ivan Stozir
Eperies	29.80	757.0	30.04	778.2	21.2	— 6.0	85	WNW	0	0		0				0	0		Dr. Wierzbicki.
Gratz	29.61	752.2	30.58	776.8	16.9	— 8.4	85	Calm			0	0				0	0		Julius Mikolik.
Hermannstadt	29.20	741.6	30.52	775.3	32.2	0.1	67	SW			3	7				0	0		Andreas Rospini.
Kremsmünster	29.00	736.5	30.55	776.0	22.5	— 5.3	93	NNW			1	2				0	0		Prof. A. Gottschling
Lemberg	28.94	735.0	30.30	772.0	20.7	— 6.3	98	NE			2	3				0	0		Prof. C. Wagner.
Pola	29.47	748.4	30.54	775.6	24.6	— 4.1	96	W			1	2				0	0		Dr. T. Stanecki.
Szathmar	30.20	767.0	30.32	770.0	43.2	6.2	39	E			3	8				0	0		I.R.Hydrographic Office
Szegedin	30.11	764.7	30.62	777.7	18.3	— 7.6	89	E			2	10				0	0		Pet. Pancsics, S. J.
Trieste	30.27	768.9	30.58	776.3	17.6	— 8.0	94	Calm			0	6				0	0		Karl Stancel.
Vienna	30.24	768.2	30.36	770.8	39.9	4.4	40	ENE			2	0				0	0	Clear.	P. Busin.
	29.78	760.5	30.53	775.4	20.1	— 6.6	100	E			1	10				0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			
Brussels																			Prof. M. Passau.
Furnes	30.12	765.1	30.34	770.5	32.5	0.3	72	ESE			1	0				0	0		Royal Observatory.
Maeseyck	30.34	770.6	30.36	771.2	32.5	0.3	95	SE			1	0				0	0	Foggy	M. E. de Cae.
	30.23	767.8	30.35	771.0	29.8	— 1.2	81	ESE			2	1				0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	36.0	2.2		S	14	6.3			1			0	0	Misty	W. Boswell.
Ardrossan	30.20	767.1	30.22	767.6	39	3.9		S			6		3					D. clouds	G.Carrick.
Armagh, (Observatory)	30.00	762.0	30.24	768.1	38.0	3.3		SSW	13	5.8			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.32	770.1	30.4	— 0.9		SSE	13	5.8			3					Blue sky	John Hartnup.
Bolton (Sharples)	29.75	755.6	30.28	769.1	30.7	— 0.7		S					10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.90	759.4	30.30	769.6	33.3	0.7	78	SW			1		4			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.95	760.7	77.5	25.3		NE			2		2					D. clouds	Pvt.G.Surgemer, A.H.C.
Cambridge (Observatory)	30.22	767.6	30.32	770.1	38.0	3.3		SE			1		0					Blue sky	H. Todd.
Cardington			30.30	769.6	34.0	1.1		SE			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.20	767.1	30.34	770.6	33.2	0.7		NW			0		0					Blue sky	W. Gibson, Sapper, R.E.
Donaghadee	30.22	767.6	30.26	768.6	40	4.4		S			3		3					D. clouds	J. Mac Gowan.
Dover	30.29	769.4	30.32	770.1	32	0.0		Calm			0		0					Misty	J. Costello.
Falmouth (Observatory)	30.07	763.8	30.31	769.9	34.9	1.6		ENE			1		10					Foggy	The Staff.
Fort Napier, Natal	27.61	701.3	29.83	757.7	84.0	28.9		E			1		3					Blue sky	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			30.16	766.1	42	5.6		SSW			2		10			0	0	Overcast	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.01	762.2	30.21	767.3	38.3	3.5		SSW			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.34	770.6	30.34	770.6	35	1.7		SE			2		0					Blue sky	G. T. Watson.
Greenwich (Royal Obs'y)	30.15	765.8	30.34	770.6	33.0	0.6		E			1		0					Blue sky	The Staff, for G.B.Airy.
Guernsey	30.05	763.3	30.26	768.6	33.5	0.8		ESE			1		8					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.40	772.1	30.53	775.4	37	2.8		ESE			2	2c				0	0	Fine	M. P. Moyle.
Holyhead	30.22	767.6	30.31	769.9	36	2.2		SSW			2		4?					Overcast?	John Tilston.
Jersey	30.00	762.0	30.31	769.9	31.8	— 0.1		E			1		8					Misty	J. Fisher.
Kew (Observatory)	30.29	769.4	30.33	770.4	27.0	— 2.8		E	0	0			Fog					Foggy	The Met'g'l Office.
Leicester (Museum)	30.05	763.3	30.32	770.1	37.0	2.8		SE			1		1					Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.83	757.7	60.6	15.9		SE			4		9k					Overcast	A. King.
Nairn	29.94	760.5	30.02	762.5	43	6.1		SW			2		5					¼ clouded	W. D. Penny.
Nassau, Bahamas			29.89	759.2	72.2	22.3		SE			2		8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.13	765.3	30.33	770.4	35.1	1.7		SSE			2		2k		SS	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.77	756.1	30.32	770.1	35.4	1.9		SE			2		7					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.08	764.0	30.34	770.6	32	0.0		ESE			1		0					Blue sky	H. E. Bellamy.
Plymouth	30.22	767.6	30.30	769.6	30.0	— 1.1		E			2		0					Misty	John Merrifield.
*Roche's Point	30.21	767.3	30.29	769.4	44	6.7		S			4		5					¼ clouded	Wm. Kennedy.
St. Ann's Head	30.14	765.5	30.31	769.9	32	0.0		Calm			0		2					Misty	John C. Walker.
Sandwick Manse, Orkneys			29.93	760.2	43	6.1		S	30	13.4			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.41	772.4	30.48	774.2	39.4	4.1		N			1		5					D. clouds	Serg't W. H. Lyne.
Sheffield	30.05	763.3	30.35	770.9	33.4	0.8		SE			1		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.26	768.6	30.28	769.1	33.4	0.8	88	Calm			0		10			0	0	Overcast	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			30.30	769.6	30.6	— 0.8		S	11	4.9			10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss					27.6	— 2.4		E			0–1		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.20	767.1	30.30	769.6	38	3.3		N			0		8					Gloomy	W. Newcombe.
Valencia (Observatory)	30.21	767.3	30.24	768.1	44.6	7.0		SSE	25	11.2			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.79	756.7	29.83	757.7	87.5	30.8	61	S	10.6	4.7		2c	3ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.58	649.7			95	35.0		WNW				3c	5k						Robert Burnet.
Constable, Cape Colony	26.70	678.2			90	32.2		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'l'd																			C. Meldrum.
Mauritius (Observatory)	29.81	757.2	30.00	761.9	80.5	26.9	63	SE	21.0	9.4		2	7		E	0.02	0.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.15	765.8	30.24	768.1	60.7	15.9	73	S	2	0.9			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			29.87	758.7	46	7.8		SSW			7		10			0	0		
North Unst, Shetland Is			29.74	755.4				S			7		10			0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Sea or swell. Height: scale 0–9	Sea or swell. Direction from—																	
H. M. S. Alert, Fortescue Bay, Patagonia			29.01‡	736.8	48	8.9		WNW			5		9					Showery	Capt. A. J. Brown.
City of Agra, S. 55° 43′ W. 84° 30′			29.18‡	741.1‡	45.5	7.5		WSW			8		10			7		Drizzling	Capt. Thos. Young.
City of Cashmere, S. 43° 48′, W. 36° 02′			29.65‡	753.1‡	53.4	11.9		NW			4		10					Showery	Capt. W. M. Grieve.
Barque Commewyne, N. 40° 55′, W. 28° 15′			30.29‡	769.4‡	59.5	15.3		S			5		7					D. clouds	Capt. Jas. Buchan.
Barque Dochra, S. 49° 10′ W. 113° 38′			29.96‡	761.0‡	52	11.1		NW			6		10					Drizzling	Capt. N. Spalding.
Barque Fedalma, N. 49° 50′, W. 12° 00′			30.21	767.3	56	13.3		SSE			2		4			4	W	D. clouds	Capt. H. L. Fox.
Bute Fylde, N. 45° 00′, W. 33° 30′			30.00	762.0	58	14.4		NNE			2		10			6	SSW	Raining	Capt. L. C. Dart.
S. S. German, East London, Cape Colony			29.67‡	753.6‡	72	22.2		ENE			6		1					Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, Off Castle Island, Bahama Islands			29.97	761.2	76	24.4		SE			5		2					Blue sky	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 2° 25′ E. 85° 19′			29.92‡	760.0‡	82.5	28.1		WSW			2		6					D. clouds	Capt. W. P. Hughes.
S. S Strathleven, N 36° 25′, W. 7° 30′			29.70‡	754 4‡	52.5	11.4		N			5		10					Showery	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.16	664.4	29.88	758.9	64 4	18.0	88	SE	.....	.....	1	9s	.....	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.45	773.3	30.49	774.5	31.3	— 0.4	89	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Faröe	30.46	773.6	30.48	774.1	31.5	— 0.3	92	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.67	728.1	28.71	729.2	31.6	— 0.2	96	W	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	.....
Thorshavn (Faröe)	29.37	746.0	29.41	746.9	47.7	8.7	91	SSW	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	.....
Vestervig	30.31	769.9	30.42	772.7	32.5	0.3	100	S	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.74	755.5	30.30	769.5	32.0	0.0	81	NE	.....	.....	1	.....	2	.....	E	0	0	Slightly cld'y	Collignon, Director.
Amiens, Normal School	30.22	767.6	30.34	770.6	33.1	0.6	96	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.06	763.4	30.33	770.4	29.8	— 1.2	89	SSE	.....	.....	3	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.13	765.2	30.21	767.2	43.6	6.4	18	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.69	754.2	30.29	769.3	25.9	— 3.4	.....	E	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	C. Saillard, Director.
Beauvais, Normal School	30.03	762.8	30.32	770.0	28.6	— 1.9	77	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.35	745.5	30.32	770.0	23.0	- 5	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	29.90	759.5	30.10	764.5	40.1	0.5	46	ENE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.39	746.4	30.29	769.4	19.8	— 6.8	100	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mariot, Director.
Bourges, Normal School	29.57	751.0	30.14	765.6	33.8	1	98	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.01	762.2	30.25	768.4	38.8	3.8	75	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir
Caen, Normal School	30.22	767.5	30.30	769.6	34.5	1.4	61	S	.....	.....	1	.....	.....	.....	S	0	0	.....	M. Bletrin, Director.
Carcassonne, N. School	29.68	753.9	30.10	764.6	49.8	9.9	48	E	.....	.....	2	.....	2	.....	SE	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'	29.96	760.9	30.30	769.5	31.1	— 0.5	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.62	752.3	30.22	767.6	27.0	— 2.8	40	NE	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.78	731.0	30.18	766.5	41.7	5.4	49	E	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Alluard, Director.
Commercy, Normal School	29.38	746.2	30.31	769.9	23.0	— 5	.....	E	.....	.....	3	.....	2k	.....	E	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.02	737.2	30.17	766.2	50.4	10.2	39	E	.....	.....	2	.....	2	.....	E	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.45	748.0	30.28	769.0	25.2	— 3.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.03	762.7	30.25	768.4	42.3	5.7	88	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.96	760.0	30.27	768.9	31.5	— 0.3	66	NE	.....	.....	2	.....	5	.....	SSE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.31	744.4	30.30	769.6	18.5	— 7.5	89	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.16	766.1	30.27	768.9	36.3	2.4	75	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.61	752.1	30.27	768.9	26.6	— 3.0	74	E	.....	.....	1	.....	0	.....	.....	0	0	Hazy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Mirecourt, Normal School	29.85	758.3	30.13	765.2	53.6	12.0	42	W	.....	.....	1-2	.....	0	.....	.....	0	0	Clear	E. Stephan, Director.
Mont-Louis	29.19	741.5	30.34	770.5	17.6	— 8	83	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Barbier, Director.
Nice	24.76	629.0	30.08	764.0	25.7	— 3.5	97	E	7.4	3.3	.....	.....	9	.....	E	0	0	.....	M. Cave, for Dr. Fines.
Nîmes, Normal School	30.11	764.8	30.14	765.6	52.2	11.2	39	E	.....	.....	5	.....	1	E	E	0	0	Clear	Capt. Boissière, Director.
Paris, Montsouris Obs'y	29.95	760.8	30.16	766.1	52.7	11.6	71	E	.....	.....	1	.....	cn	.....	NE	0	0	.....	M. Boyer, Director.
Perpignan	30.00	762.1	.....	.....	30.9	— 0.6	70	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Pic du Midi (Plantade) H. P.	30.06	763.5	30.17	766.4	43.5	6.4	80	NE	5.6	2.5	.....	.....	9	.....	SE	0.311	7.9	Rain & fog	Dr. Fines.
Pic du Midi (Summit) H. P.	22.37	568.1	.....	.....	24.3	— 4.3	.....	.....	.....	.....	.....	.....	.....	.....	SSE	0	0	.....	M. Baylac, for Gen'l de Nansouty
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puy de Dome (Summit) Obs	29.10	739.0	30.21	767.2	37.4	3	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.19	639.7	.....	.....	35.8	2.1	54	E	.....	.....	2	.....	2	.....	.....	0	0	¼ covered	Alluard, Director.
Rouen, Normal School	30.15	765.7	30.18	766.5	43.3	6.3	61	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.21	767.2	30.29	769.4	30.2	— 1.0	75	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Maur (near Paris)	30.25	768.3	30.29	767.0	30.7	— 0.7	84	ENE	.....	.....	2	.....	.....	NE	NE	0	0	Misty	Lt. Hercouet, Director
Tarbes, Normal School	30.13	765.2	30.29	769.4	32.5	0.3	68	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Renou, Director.
Toulouse, Observatory	28.93	734.9	30.06	763.5	36.5	2.5	70	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Tours	29.40	746.8	30.13	765.2	48.7	9.3	55	SE	.....	.....	6	.....	0	.....	.....	0	0	Clear	B. Bailland, Dir.
Versailles, Observatory	30.03	762.8	30.23	767.8	35.2	1.8	92	E	.....	.....	1	.....	8	.....	ESE	0	0	¾ covered	M. de Tastes.
Villefranche-sur-Saone, N.S	29.77	756.2	30.26	768.7	30.6	— 0.8	70	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director
SUB-SERIES.	29.48	748.9	30.25	768.3	28.4	— 2	90	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
Fort de France, Martinique	29.95	760.6	29.97	761.3	70.2	21 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.63	777.9	30.66	778.5	24.4	— 4.2	87	NW	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.07 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 187.0 millimeters, or 5.818 inches has been used. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.48	748.7	30.35	770.8	28.6 — 1.9		60	SE			4		2s			0	0		Prof. Dr. Hoh.
Berlin	30.34	770.6	30.52	775.3	31.1 — 0.5		94	E			1		8	E		0	0	Foggy	Prof. Dr. Arndt.
Breslau	30.06	763.4	30.60	777.2	22.8 — 5.1		96	ESE			1		10			0	0		Royal University Obs'y.
Carlsruhe	29.87	758.7	30.33	770.4	26.6 — 3.0		82	NE			2		0			0	0	Light fog.	Albert Senz.
Cassel	29.77	756.1	30.38	771.7	32 4 0.2		69	SE			2		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.07	763.6	30.45	773.4	31.3 — 0.4		59	E			2		1			0	0		Physical Society.
Friedrichshafen	28.84	732.4	30.39	771.8	20.8 — 6.2		66	ENE			1		10			0	0	Hazy.	Chief Telegrapher Wilhelm.
Hamburg	30.42	772.6	30.49	774.4	33.4 0.8		80	SW			2		3			0.071	1.8		Dr. Reinhold Kleeman.
Kiel	30.47	773.8	30.48	774.2	34.7 1.5		80	W			1		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.49	774.4	30.58	776.7	25.9 — 3.4		89	W			4		1			0.280	7.1		Prof. E. Luther.
Köslin			30.58	776.6	18.5 — 7.5			S			2		0			0	0		H. Müller.
Leipsic Observatory	30.04	762.9	30.48	774.3	29.8 — 1.2		73	ESE			2		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.25	768.3	30.48	774.2	30.9 — 0.6		71	E			2		0			0	0		Dr. Assmann.
Memel	30.45	773.5	30.50	774.7	33.1 0.6		82	W			3–4	5c				0	0	Light fog	Reinbrecht & Issermann.
Munich (München)	28.43	722.0	30.30	769.7	17.8 — 7.9		89	NE			2		3						Dr. C. Lang.
Neufahrwasser	30.58	776.8	30.60	777.2	26.2 — 3.2		82	SSW			1		1			0	0		A. Lothes.
Neustadt (Palatinate)	29.80	756.8	30.33	770.3	30 0 — 1.1			NE			2					0	0		Reallehrer Dickmether.
Posen	30 31	769.8	30.62	777.8	19.2 — 7.1		90	SE			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.79	756.6	30.40	772.1	14.2 — 9.9		97	S			1		7			0	0		Imp. University Observatory.
Stuttgart	29.35	745.5	30.36	771.1	25.9 — 3.4		80	E					0			0	0		Prof. Dr. Schoder.
Thorn	30.48	774.2	30.67	779.1	19.0 — 7.2		94	Calm			0		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.80	731.5	30.39	772.0	25.9 — 3.4		91	E	0.7	0.3						0	0	Light fog	Reallehrer J. Hopfner
Wustrow	30.50	774.7	30.52	775.3	33.1 0.6		76	S			2		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction *between the amount of upper and lower clouds is not made*; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.02	762.4	30.42	772.6	46.0	7.8		N			2.0		10					Cloudy	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.6	30.00	761.9	74.2	23.4	59	WNW	6	2.7			0			0	0	Blue sky	
Deesa	29.64	752.8	30.12	765.1	76.6	24.8	13	NW	8.6	3.8			2	WNW		0	0	Misty	
Bombay	29.96	760.9	30.00	761.9	78.7	25.9	71	NNW	16	7.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.14	714.6	30.00	762.1	77.5	25.3	14	E	7	3.1			1			0	0	D. clouds	
Belgaum	27.44	696.9	29.99	761.6	76.1	24.5	26	NNE	13	5.8			0			0	0	Blue sky	
Lahore	29.34	745.3	30.12	765.1	61.6	16.4	38	Calm	0.4	0.2			4			0	0	Blue sky	
Roorkee	29.17	741.0	30.11	764.8	63.8	17.7	60	W	1.0	0.4			3			0	0	D. clouds	
Agra	29.54	750.2	30.13	765.3	60.3	15.7	63	NW	2.0	0.9			1			0	0		
Nagpur	29.01	736.9	30.08	763.9	72.7	22.6	37	SE	2.4	1.1			0			0	0	Blue sky	
Jubbulpore	28.69	728.7	30.10	764.6	65.8	18.8	31	NE	1.1	0.5			3			0	0	D. clouds	
Lucknow	29.73	755.0	30.12	765.0	68.4	20.2	49	Calm	0.1	0.04			0			0	0	Blue sky	
Allahabad	29.79	756.6	30.12	765.0	59.3	15.2	65	Calm	0.6	0.3			1			0	0	D. clouds	
Patna	29.91	759.8	30.10	764.6	67.2	19.6	39	Calm	0.6	0.3			2	NW	NW	0	0		
Hazaribagh	27.99	710.9	30.08	764.0	61.8	16.6	37	NW	2.9	1.3			3			0	0		
Cuttack	29.96	761.1	30.05	763.2	69.9	21.1	54	NE	0.9	0.4			0			0	0	Blue sky	
Jalcutta (Alipore)	30.02	762.4	30.04	762.9	66.1	18.9	64	NNE	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.66	753.4	30.07	763.7	68.4	20.2	53	ENE	9.2	4.1			0			0	0	Blue sky	
Chittagong	29.92	759.8	30.01	762.2	70.3	21.3	67	WNW	3.9	1.7			0			0	0		
Sibsagur	29.81	757.2	30.16	766.2	63.8	17.7	78	ENE	2.0	0.9			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.94	760.6	30.38	771.6	37.4	3.0	45	E	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.82	757.5	30.38	771.6	33.3	0.7	83	W	.....	.....	.....	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.27	768.8	30.39	771.8	36.0	2.2	60	NNE	8.7	3.9	.....	.....	9	SE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.44	747.7	30.39	771.8	25.7	— 3.5	78	ENE	0.7	0.3	.....	.....	6	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.07	763.8	30.27	768.9	36.5	2.5	55	N	13.7	6.1	.....	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.38	720.8	30.40	772.2	31.1	— 0.5	52	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.27	768.9	30.33	770 3	35.6	2.0	64	W	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.98	761.4	30.25	768 4	41.9	5.5	78	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30..3	765.2	30.22	767 5	43.0	6 1	46	ENE	13.7	6.1	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.90	759.5	30.08	764.1	52.7	11.5	54	N	9.4	4.2	.....	.....	9	.....	.....	0.079	2.0	.....	Prof. P. S. Ferrari
Lecce	29.92	759.9	30.18	766.6	52.9	11.6	78	ESE	29.8	13.3	.....	.....	10	S	.....	1.000	25.4	.....	Prof. C. De Giorgi
Cosenza	29.23	742.4	30.23	767.9	38.7	3.7	71	SE	0	0	.....	.....	10	.....	.....	1.787	45.4	.....	Prof. D. Conti.
Cagliari	29.70	754.4	29.89	759.3	56.5	13.6	74	E	.....	.....	2	.....	9	SE	.....	0.130	3.3	.....	Prof. A. Pacinotti.
Palermo	29.68	753.8	29.93	760.3	54.1	12.3	87	WSW	2.5	1.1	.....	.....	10	.....	.....	0.457	11.6	.....	Prof. G. Ciaccatore.
Syracuse	29.93	760.2	29.97	761.3	56.8	13.8	86	SE	22.4	10.0	.....	.....	10	SSE	.....	1.032	26.2	.....	Prof. V. G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.09	764.2	45.7	7.6	77	NE	2.5	1.1	.....	.....	10	.....	.....	0.236	6.0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.27	768.8	30.29	769.3	26.8	— 2.9	.....	NE	1.1	0.5	.....	ck	8cs	.....	E	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.14	765 5	30.30	771.1	33.0	0.6	65	N	8.8	3.9	.....	ck	8s	.....	.....	0.020	0.51	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.78	756.4	29.85	758.2	35.8	2.1	54	NNW	11.2	5.0	.....	1ck;cs	.....	W	.....	0	0	Clear	The Staff.
Wakayama	30.13	765.3	30.19	766.8	32.0	0.3	76	WNW	9.1	4.1	.....	10ck	.....	W	.....	0	0	Cloudy.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.02	635.4	30.41	772.4	23.9	— 4.5	44	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	Prof. L. Perez.
Leon	24.40	619.7	30.38	771.7	36.5	2.5	75	NW	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.67	753.7	29.94	760.4	61.9	16.6	52	NE	.....	.....	1	0	0	.....	.....	0	0	Very fine	F. Quijano, C. E.
Mexico, Central Observatory	22.99	584.0	30.30	769.5	34.9	1.6	57	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.02	610.1	.....	.....	51.3	10.7	57	N	.....	.....	3	3c	0	S	.....	0	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	23 82	604.9	30.01	762.2	32.2	0.1	40	N	.....	.....	2	0	0	.....	.....	0	0	.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.24	590.2	30.30	769.6	32.0	0.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.07	611.3	30.42	772.7	29.1	— 1.6	64	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.96	761.0	29.97	761.3	64.4	15.8	87	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.97	761.1	29.99	761.8	69.0	15.0	68	Calm	0	0	.....	1s	0	.....	.....	0	0	Clear	Prof. J. Rossell.
Zacatecas																			J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,795.6 m., or 5,891.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.37	771.3	30.37	771.3	32.0	0.0	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.37	771.3	30.42	772.7	32.7	0.4	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.39	771.9	30.39	771.9	31.1	— 0 5	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.36	771.1	30.36	771 1	30.0	— 1.1	68	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
.....	30.34	770.7	30.39	771.9	32.9	0.5	65	SE	.....	.....	3	.....	2	.....	.....	0	0	Sl'ly cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.17	766.4	30.23	767.8	35.6	2.0	82	S	27.5	12.3	.....	.....	10	.....	.....	0.118	3.0	.....	
Brönö	29.84	758.0	29.88	759.0	37.4	3.0	66	SW	27	12	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.13	765.3	30.29	769.3	21.4	— 5.9	100	NNE	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.61	752.0	29.65	753.1	40.1	4.5	65	SW	11	5	.....	.....	10	.....	.....	0.177	4.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	28.84	732.5	29.87	758.7	43.5	6.4	77	NNE	4.3	1.9	.....	.....	10	.....	.....	0.067	1.7	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.05	763.2	30.13	765.4	65.7	18.7	57	S	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.55	750.6	29.92	760.0	45.9	7.7	72	NE	19.2	8.6	.....	.....	5	NNE	.....	0.177	4.5	.....	The Staff.
Ponta Delgada (Azores)	30.29	769.4	30.36	771.2	61.9	16.6	61	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Bulama, Bissago Islands, Africa.	.....	.....	.....	.....	81.7	27.6	.....	S	.....	.....	1	.....	2	.....	.....	0	.....	D. clouds.....	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello. Bahai de Cairo, about 8. 13°, E. 13°	.....	.....	29.86	758.4	75.0	23.9	.....	W	.....	.....	3	.....	2	.....	W	2	W	D. clouds....	F. de Assis Camillo, Jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.39	772.0	55.4	13.0	.....	NE	.....	.....	3	.....	0	.....	.....	1	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.10	764.6	30.12	765.1	— 1.1	—18.4	87	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.13	765.4	30.05	763.3	12.4	—10.9	83	WSW	25	11	.....	.....	10s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.74	755.5	30.29	769.3	14.5	— 9.7	100	SSW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	30.17	766.3	30.44	773.2	14.9	— 9.5	94	SW	4	2	.....	5ck	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.86	733.1	29.94	760.5	— 8.1	—22.3	76	WNW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.71	754.5	30.01	762.3	7.6	—22.0	90	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.66	753.4	30.36	771.1	15.4	— 9.2	81	NW	11	5	.....	c;ck	7ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.45	747.9	29.97	761.3	— 7.6	—22.0	63	W	0	0	.....	.....	9	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.91	759.8	30.15	765.7	— 0.8	—18.2	77	W	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.58	751.3	30.20	767.1	— 6.0	—21.1	72	N	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.80	706.1	30.41	772.3	— 8.9	—22.7	62	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.34	770.7	30.41	772.5	24.1	— 4.4	84	N	18	8	.....	.....	8ks	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.89	759.3	30.15	765.7	24.1	— 4.4	96	ESE	7	3	.....	.....	4ks	.....	.....	.....	.....	.....	.....
Oranberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.26	768.7	30.41	772.3	23.2	— 4.9	43	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.34	770.7	30.36	771.1	3.0	—16.1	90	W	2	1	.....	.....	2s	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.67	725.6	30.22	767.5	33.4	0.8	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining...	Teich, A. M.
Tiflis	28.79	731.3	30.30	769.5	31.1	— 0.5	53	NW	9	4	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.15	765.9	30.62	777.6	20.5	— 6.4	82	WNW	7	3	.....	1c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.08	764.0	30.54	775.7	16.5	— 8.6	80	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	30.22	767.6	30.56	776.3	—23.8	—31.0	79	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.95	760.7	30.06	763.4	49.3	9.6	60	ENE	12.6	5.64	.....	.....	8	.....	.....	.....	.....	0.084	2.14	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.1	30.10	764.6	47.8	8.8	76	SE	2.6	1.14	.....	.....	10	.....	.....	0	0	Covered.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.0	.....	.....	33.8	1.0	90	NE	5.5	2.44	.....	0	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.65	702.3	29.91	759.8	46.9	8.3	60	NE	13.4	6.00	.....	0	3	.....	.....	0.091	2.3	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.77	756.1	29.92	760.0	57.0	13.9	63	ENE	2.1	0.92	.....	4	4	WSW	.....	0.079	2.01	Raining.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.06	738.2	29.98	761.4	46.4	8.0	80	NNE	14.3	6.4	.....	.....	4	.....	.....	0.346	8.8	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.73	755.2	29.80	756.9	75.1	23.9	84	S	8.7	3.9	.....	.....	10n	.....	S	0.063	1.6	Raining.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.96	761.0	30.01	762.3	80.9	27.2	76	N	.....	.....	.....	.....	1s	.....	E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.68	753.8	29.78	756.4	49.1	9.5	81	ENE	6.1	2.7	.....	0	10	.....	E	0.461	11.7	.....	Capt. C. Fujason, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	71.6	22.0	89	SE	0	0	.....	5kn	4kn	E	SE	0.197	5.00	Cloudy.....	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.94	760.5	29.98	761.5	25.9	— 3.4	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.02	762.6	30.08	763.9	20.8	— 6.2	90	S	.....	.....	2	.....	2	.....	.....	0	0	Foggy	
Hernosand	30.06	763.4	30.11	764 7	26.2	— 3.2	70	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Stockholm	30.22	767.6	30.40	772.1	21.3	— 4.3	93	WNW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.32	770.2	30.38	771.7	24.8	— 4.0	91	W	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.22	767.5	30.30	769.7	25.5	— 3.6	93	SW	11.6	5.2	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 11° 08′, W. 74° 35′	.....	.....	29.82‡	757.3‡	76.3	24.6	.....	ENE	.....	.....	2	.....	4	.....	.....	.....	.....	Gloomy	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.81	731.7	30.34	770.7	19.8	— 6.8	94	N	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.62	726.9	30.30	772.0	16.9	— 8.4	80	E	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.4 mm.; Thermometer, —8 7 Cent. Relative Humidity, +14 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.54	775.7	37.8	3.2	79	ESE	2	1.0	.....	.....	9	.....	WSW	0	0	.....	The Observatory.
Fao, Persian Gulf																			
Valona	.....	.....	30.17	766.3	49.6	9.8	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.31	769.8	53.2	11.8	59	N	.....	.....	2	4c	.....	.....	.....	0.06	1.5	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.03	762.7	30.04	763.0	6.5	—14.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	30.00	763.5	30.13	765.3	6.4	—14.2	88	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	G. A. Blair.
Charlottetown, P. E. Island	30.08	764.0	30.12	765.0	21.2	— 6.0	86	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.*.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.91	759.7	30.11	764.8	25.0	— 3.9	96	W	.....	.....	1	0	8s	.....	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.92	760.0	30.10	764.5	19.8	— 6.8	.....	W	2	0.9	.....	.....	10ks	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Father Point, Quebec	30.22	767.6	30.24	768.1	22.4	— 5.3	93	SW	10.0	4.5	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.14	765.5	30.21	767.3	3.1	—16.1	100	N	1	0.4	.....	Haze	Haze	.....	.....	0	0	Hazy.....	Prof. Harrison.
Fort Garry, Manitoba	28.80	731.5	29.70	754.4	4.0	—15.6	96	W	10	4.5	.....	0	2s	.....	.....	0	0	Fair.....	James Stewart.
Granton, Ontario	28.88	733.5	30.03	762.7	33	0.6	.....	E	.....	.....	2	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	30.08	764.0	30.22	767.6	20.7	— 6.3	96	W	1	0.4	.....	.....	9ks	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	29.71	754.6	30.10	764.5	37.1	2.8	85	NW	.....	.....	1	6ck	0	NW	.....	0	0	Fair.....	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.80	756.9	30.15	765.8	32.6	0.3	91	SW	5	2.2	.....	0	0·	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S	30.08	764.0	30.12	765.0	20.2	— 6.6	91	SW	7	3.1	.....	0	8ks	.....	.....	0	0	Cloudy.....	C. H. Rigby.
Montreal, Quebec	29.94	760.5	30.16	763.1	26.2	— 3.2	97	SW	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.71	754.6	29.74	755.4	15.2	— 9.3	93	E	.....	.....	2	.....	10	.....	.....	0	0	Cloudy.....	J. R. Nesson.
Norwood	29.35	745.5	30.10	764.5	22.9	— 5.1	100	SE	2	0.9	.....	0	4s	.....	.....	0	0	Fair.....	
Parry Sound, Ontario	29.26	743.2	29.98	761.5	28.5	— 1.9	89	SE	9	4.0	.....	2cs	2ks	SW	SW	0	0	Fair.....	Rev. T. F. Fotheringham, M. A
Peterboro, Ontario	29.32	744.7	30.12	765.0	23.8	— 4.6	73	E	.....	.....	1	0	0	.....	.....	0	0	Clear.	Rev. R. Mosley.
Port Dover, Ontario	29.36	745.7	30.08	764.0	36.0	2.2	80	SW	7	3.1	.....	10ck	0	NW	.....	0	0	Fair.....	J. F. Jeffers, M. A.
Port Stanley, Ontario	29.39	746.5	30.06	763.5	34.2	1.2	86	SE	6	2.7	.....	.....	5ks	.....	.....	0	0	Clearing....	H. Morgan.
Quebec, Quebec	29.83	757.7	30.18	766.6	22.0	— 5.6	100	NW	.....	.....	1	.....	10n	.....	.....	0.02	0.5	Cloudy.....	M. Payne.
Rockliffe, Ontario	29.57	751.1	30.06	763.5	15.6	— 9.1	66	W	2	0.9	.....	.....	6ks	.....	.....	0	0	Cloudy.....	Capt. Ashe, R. N.
St. John, N. B	30.03	762.7	30.20	767.1	24	— 4.4	93	Calm	0	0	.....	0	6ks	.....	.....	0	0	Cloudy.....	W. H. McIntyre.
Saugeen, Ontario	29.20	741.7	29.94	760.5	36.0	2.2	80	S	11	4.9	.....	.....	10s	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
Stratford, Ontario	28.72	729.5	30.04	763.0	32.8	0.4	84	S	5.0	2.2	.....	0	7s	.....	.....	0	0	Fair.....	Miss K. Stewart.
Sydney, C. B	30.10	764.5	30.14	765.5	11.6	—11.3	94	W	1	0.4	.....	7c	1s	W	.....	0	0	Fair.....	C. J. MacGregor, M. A
Toronto, Ontario	29.70	754.4	30.10	764.5	29.0	— 1.7	93	SE	5	2.2	.....	5cs	Fog	S	.....	0	0	Fair.....	T. C. Hill, C. E.
Windsor, N. S	30.07	763.8	30.17	766.3	17.5	— 8.1	92	SW	4	1.8	.....	0	3ks	.....	.....	0	0	Light fog....	Magnetic Observatory
Woodstock, Ontario	28.93	734.8	30.03	762.7	33.8	1.0	85	S	16	7.2	.....	.....	10s	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A
Yarmouth, N. S	30.16	766.1	30.23	767.8	32.5	0.3	89	W	2	0.9	.....	2ck	2s	SW	.....	0	0	Cloudy.....	Professor Wolverton.
Sub-Series.																			Lt. F. E. Wilmot, R. N.
St. Johns, Newfoundland	29.90	759.4	30.17	766.3	22	— 5.6	86	W	.....	.....	.....	10k	10s	.....	.....	0	0	Fair.....	
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.04	763.0	23.0	— 5.0	.....	NW	.....	.....	2	.....	n	.....	.....	0	0	Overcast....	John Delany.
																		Cloudy.....	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	30.00	762.0	30.25	768.3	27	— 2.8	88	SW	1	0.4	.....	0	Fog;sm	.....	Calm	0	0	Clear.	
Alpena, Michigan	29.14	740.1	29.79	756.7	37	2.8	90	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.77	730.7	29.94	760.5	40	4.4	48	E	20	8.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Atlantic City, New Jersey	30.22	767.6	30.24	768.1	33	0.6	79	W	4	1.8	.....	8k	0	W	.....	0	0	Fair...	
Augusta, Georgia	29.83	757.7	30.00	762.0	44	6.7	100	NE	10	4.5	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain...	
Baltimore, Maryland	30.22	767.6	30.28	769.1	32	0.0	69	NW	4	1.8	.....	10cs	Haze	W	Calm	0	0	Cloudy.....	
Barnegat, New Jersey	30.22	767.6	30.24	768.1	32	0.0	109	N	5	2.2	.....	5c	Haze	N	Calm	0	0	Fair...	
Bismarck, Dakota	27.95	709.9	29.81	757.2	6	—14.4	88	NW	16	7.2	.....	0	0	.....	.....	0.03	0.8	Clear.	
Boerne, Texas	28.41	721.6	29.75	755.6	41	5.0	65	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.97	685.0	29.93	760.2	21	— 6.1	86	SE	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Boston, Massachusetts	30.08	764.0	30.24	768.1	31	— 0.6	69	NW	3	1.3	.....	0	0s	.....	Calm	0	0	Clear	
Brackettville, Texas	28.68	728.5	29.76	755.9	41	5.0	57	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.54	724.9	29.58	751.3	12	—11.1	100	N	24	10.7	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy.....	
Brownsville, Texas	29.88	758.9	29.93	760.2	67	13.9	95	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.39	746.5	30.11	764.8	35	1.7	53	S	7	3.1	.....	2c	Haze	Calm	Calm	0	0	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.88	758.9	30.18	766.6	32	0.0	79	S	5	2.2	.....	5ck	2ks	W	W	0	0	Fair...	
Cairo, Illinois	29.57	751.1	29.96	761.0	43	6.1	67	Calm	0	0	.....	2c	0	NW	.....	0	0	Fair...	
Campo, California	27.34	694 4	29.91	759.7	33	0.6	89	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.06	763.5	30.06	763.5	52	11.1	86	NE	26	11.6	.....	.....	10n	.....	NE	0.20	5.1	Light rain...	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	45	7.2	76	NE	25	11.2	.....	.....	10s	.....	E	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763.0	51	10.6	93	NE	32	14.3	.....	.....	10n	.....	NE	0.62	15.7	Light rain...	
Cape May, New Jersey	30.21	767.3	30.24	768.1	33	0.6	69	N	10	4.5	.....	8cs	0	Calm	.....	0	0	Cloudy.....	
Castroville, Texas	29.10	739.1	29.84	757.9	36	2.2	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	29.63	752.6	29.66	753.4	61	16.1	100	SE	20	8.9	.....	0	9s	.....	SE	1.50	38.1	Cloudy.....	
Charleston, South Carolina	29.88	758.9	29.94	760.5	50	10.0	93	NE	16	7.2	.....	.....	10s	.....	Calm	0.74	18.8	Threatening	
Charlotte, North Carolina	29.23	742.	30.08	764.0	36	2.2	71	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.18	741.1	30.01	762.2	37	2.8	71	E	1	0.4	.....	2cs	2s;sm	SW	Calm	0	0	Fair...	
Cheyenne, Wyoming	23.63	600.2	29.57	751.1	20	— 6.7	70	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Chicago, Illinois	29.13	739 9	29.82	757.4	42	5.6	65	S	11	4.9	.....	2k	0	Calm	.....	Inap.	Inap.	Clear.	
Cincinnati, Ohio	29.40	746.7	30.07	763.8	37	2.8	71	SE	1	0.4	.....	.....	Fog,sm	.....	Calm	0	0	Dense smoke	
Cleveland, Ohio	29.32	744.7	30.07	763.8	34	1.1	65	SE	10	4.5	.....	2c;k	0	Calm	.....	0	0	Clear	
Coleman City, Texas	27.98	710.7	29.68	753.9	37	2.8	71	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.21	741.9	30.07	763.8	34	1.1	70	SE	5	2.2	.....	0	Fog	.....	Calm	0	0	Foggy.....	
Concho, Texas	27.88	708.1	29.58	751.3	40	4.4	91	SW	.....	.....	1	8ck	0	.....	.....	0	0	Fair...	
Corsicana, Texas	29.39	746.5	29.97	758.7	41	5.0	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.06	738.1	29.69	754.1	43	6.1	59	S	22	9.8	.....	0	5s	.....	Calm	0	0	Fair...	
Dayton, Washington T'y	.....	.....	.....	.....	27	— 2.8	82	SW	.....	.....	1	.....	10s	.....	W	0	0	Cloudy.....	
Deadwood, Dakota	25.05	636.3	.....	.....	9	—12.8	57	Calm	0	0	.....	.....	10s	.....	SW	0.18	4.6	Cloudy.....	
Decatur, Texas	28.59	726.2	29.75	755.6	48	8.9	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	28.99	736.3	29.78	756.4	45	7.2	46	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.40	619.8	29.62	752.3	27	— 2.8	64	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.67	728.2	29.54	750.3	41	5.0	65	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.30	744.2	29.99	761.7	36	2.2	80	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dodge City, Kansas	27.02	686.3	29.29	744.0	38	3.3	38	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	28.96	735.6	29.65	753.1	42	5.6	66	SE	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	28.69	728.7	29.36	745.7	34	1.1	90	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy.....	
Eagle Pass, Texas	29.12	739.6	29.87	758.7	40	4.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.13	765.3	30.20	767.1	26	— 3.3	75	W	2	0.9	.....	8k	0	W	.....	0	0	Fair...	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.37	746.0	30.10	764.5	35	1.7	61	SE	15	6.7	.....	0	5s	.....	Calm	0	0	Fair...	
Escanaba, Michigan	28.93	734.8	29.58	751.3	35	1.7	70	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Florence, Arizona	28.28	718.3	29.88	758.9	44	6.7	68	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.73	704.4	29.72	754.9	1	—17.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.59	675.4	.....	.....	2	—16.7	72	SE	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear.	
Fort Davis, Texas	24.99	634.7	29.95	760.7	40	4.4	55	SW	4	1.8	.....	5c	0	W	.....	0	0	Fair...	
Fort Gibson, Indian Ter	29.19	741.4	29.73	755.1	44	6.7	45	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	24.99	634.7	29.79	756.7	41	5.0	27	N	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Fort Griffin, Texas	28.45	722.6	29.71	754.6	46	7.8	40	S	12	5.4	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Keogh, Montana	27.67	687.6	.....	.....	4	—15.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.51	698.7	29.44	747.8	42	5.6	42	S	16	7.2	.....	4ck	0	S	.....	0	0	Fair...	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.47	723.1	29.59	751.6	37	2.8	63	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.92	709.2	.....	.....	3	—16.1	86	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	45	7.2	92	S	.....	.....	3	0	8s	.....	S	0	0	Fair...	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.01	711.4	29.90	751.8	40	4.4	56	S	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair...	
Galveston, Texas	29.95	759.4	29.94	760.5	51	10.6	79	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear.	
Graham, Texas	28.64	727.4	29.70	754.4	41	5.0	49	SE	4	1.8	.....	9ck	0	W	.....	0	0	Fair...	
Grand Haven, Michigan	29.17	740.9	29.82	757.4	44	6.7	76	S	22	9.8	.....	0	2s	.....	Calm	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	28.77	730.7	29.71	754.6	42	5.6	50	S	10	4.5	.....	2c	0	W	.....	0	0	Fair...	
Indianapolis, Indiana	29.17	740.9	29.95	761.0	38	3.3	63	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Indianola, Texas	29.90	759.4	29.93	760.2	52	11.1	75	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.54	724.9	29.67	753.6	45	7.2	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.74	755 4	29.77	756.1	66	18.9	89	E	12	5.4	.....	.....	10n	.....	E	1.03	26.2	Light rain...	
Keokuk, Iowa	29.04	737.6	29.65	753.1	45	7.2	46	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	29.76	755.9	29.79	756.7	75	23.9	86	S	14	6.3	.....	.....	10s	.....	.....	0	0	Threatening	
Kittyhawk, North Carolina	30.10	764.5	30.13	765.3	48	8.9	78	NE	22	9.8	.....	10cs	0	Calm	.....	0.19	4.8	Cloudy.....	
Knoxville, Tennessee	29.00	736.6	30.05	763.3	31	— 0.6	79	NE	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
La Crosse, Wisconsin	28.79	731.3	29.51	749 5	45	7.2	53	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
La Mesilla, New Mexico	25.86	656.8	30.00	762.0	29	— 1.7	34	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	
Laredo, Texas	29.45	748.0	29.79	756.7	62	11.1	79	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	28.74	730.0	29.37	751.1	43	6.1	61	S	13	5.8	.....	3c	0	Calm	.....	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.58	751.3	29.95	760.7	37	2.8	81	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear.	
Los Angeles, California	29.56	750.8	29.80	759.4	44.0	6.7	68	N	1	0.4	.....	0	8s	.....	W	0	0	Cloudy.....	
Louisville, Kentucky	29.41	747.0	29.98	761.5	39	3.9	73	NE	1	0.4	.....	2cs	Sm'e	Calm	Calm	0	0	Clear	
Lynchburg, Virginia	29.51	749.5	30.24	768.1	28	— 2.2	88	Calm	0	0	.....	2k	0	SW	.....	0	0	Clear	
Madison, Wisconsin	28.64	727.4	29.62	752.3	42	5.6	66	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Marquette, Michigan	28.79	731.3	29.47	748.5	43	6.1	75	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.....	
Mason, Texas	28.17	715.5	29.94	760.5	45	7.2	46	W	1	5.4	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.58	751.3	29.93	760.2	38	3.3	54	E	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.98	736.1	29.71	754.6	41	5.0	65	SW	18	8.0	.....	.....	10s	.....	S	0	0	Cloudy	
Mobile, Alabama	29.80	756.9	29.85	758.2	43	6.1	83	N	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.67	753.6	29.91	759.7	43	6.1	91	NE	5	2.2	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Morgantown, West Virginia	29.12	739.6	30.16	766.1	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	18	- 7.8	100	NW	36	16.1	.....	.....	Fog	.....	NW	0.03	0.8	Foggy	
Nashville, Tennessee	29.44	747.8	29.99	761.7	35	1.7	70	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
New Haven, Connecticut	30.13	765.3	30.25	768.3	31	— 0.6	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Fair	
New London, Connecticut	30.19	766.8	30.24	768.1	29	— 1.7	78	N	1	0.4	.....	0	Fog	.....	.....	0	0	Clear	
New Orleans, Louisiana	29 78	756.4	29.84	757.9	49	9.4	57	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.19	766.8	30.24	768.1	33	0.6	79	Calm	0	0	.....	2c	Sm'e	Calm	.....	0	0	Smoky	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.13	765.3	30.31	769.9	38	3.3	80	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.11	764.8	30.17	766.3	43	6.1	67	N	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy	
North Platte, Nebraska	26.70	678.2	29.30	744.2	28	— 2.2	77	N	18	8.0	.....	10c	0	NW	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.76	755.9	29.80	756.9	32.5	0.3	94	S	2	0.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Omaha, Nebraska	28.39	721.1	29.48	748.8	35	1.7	70	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.84	757.9	30.18	766.6	31	— 0.6	79	S	7	3.1	.....	Haze	Haze	.....	.....	0	0	Hazy	
Pembina, Dakota	28.70	729.0	29.59	751.6	8	—13.3	100	NW	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	29.78	756.4	29.81	757.2	44	6.7	82	N	14	6.3	.....	.....	10s	.....	N	0.37	9.4	Cloudy	
Philadelphia, Pennsylvania	30.21	767.3	30.27	768.8	34	1.1	70	NW	10	4.5	.....	2c	Fog	W	Calm	0	0	Fair	
Phœnix, Arizona	28.59	726.2	30.40	772 1	46	7.8	54	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.24	437.9	29.45	748.0	0	—17.8	100	SW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas	29.14	740.1	30.00	762.0	87	2.8	54	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	23.62	599.9	29.39	746.5	26	— 3.9	75	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Pittsburg, Pennsylvania	29.31	744.5	30.16	766.1	32	0.0	79	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Port Huron, Michigan	29.31	744.5	29.99	761.7	37	2.8	71	S	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	30.13	765.3	30.19	766.8	26	— 3.3	75	S	2	0.9	.....	2k	2s	Calm	Calm	0	0	Fair	
Portland, Oregon	29.84	757.9	29.91	759.7	35	1.7	90	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	51	10.6	86	NE	27	12.1	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Prescott, Arizona	24.47	621.5	29.83	757.7	42	5.6	42	S	.....	.....	2	10c	0	W	.....	0	0	Cloudy	
Punta Rassa, Florida	29.72	754.9	29.73	755.1	72	22.2	90	SE	18	8.0	.....	.....	10n	.....	SE	0.14	3.6	Light rain	
Red Bluff, California	29.69	754.1	29.96	761.0	34	1.1	79	Calm	0	0	.....	.....	10ks	.....	.....	0	0	Cloudy	
Rio Grande City, Texas	29.71	754.6	29.94	760.5	39	3.9	91	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.48	748.8	30.12	765.0	36	2.2	80	SW	8	3.6	.....	0	Fog	.....	Calm	0	0	Clear	
Roseburg, Oregon	29.40	746.7	30.00	762.0	28	— 2.2	88	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Sacramento, California	29.86	758.4	29.93	760.2	37	2.8	71	E	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.27	743.4	29.85	758.2	39	3.9	55	S	11	4.9	.....	2ck	2s	S	S	0	0	Fair	
St. Paul, Minnesota	28.58	725.9	29.38	746 2	40	4.4	73	S	4	1.8	.....	.....	10s	.....	SW	0.04	1.0	Cloudy	
Salt Lake City, Utah	25.31	642.9	29.64	752.8	22	— 5.6	58	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
San Antonio, Texas	29.20	741.7	29.80	756.9	40	4.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29 90	759.4	29.98	761.5	47	8.3	85	W	4	1.8	.....	.....	8ks	.....	W	0	0	Cloudy	
Sandusky, Ohio	29.36	745.7	30.04	763.0	39	3.9	64	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	36	2.2	90	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
San Francisco, California	29.85	758.2	29.91	759.7	43	6.1	83	SE	16	6.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Santa Fé, New Mexico	23.06	585.7	29.60	751.8	18	— 7.8	68	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Savannah, Georgia	29.81	757.2	29.90	759.4	49	9.4	93	NE	8	3.6	.....	.....	10n	.....	NE	0.28	7.1	Light rain	
Shreveport, Louisiana	29.70	754.4	29.93	760.2	36	2.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.00	762.0	30.04	763.0	60	10.0	100	N	16	7.2	.....	.....	10n	.....	Calm	0.74	18.8	Light rain	
Socorro, New Mexico	25.11	637.8	29.17	740.9	34	1.1	52	Calm	0	0	.....	8ck	0	W	.....	0	0	Fair	
Springfield, Illinois	29.18	741.1	29.86	758.4	41	5.0	57	S	16	7.2	.....	5es	2s	W	W	0	0	Fair	
Springfield, Massachusetts	30.12	765.0	30.26	768.6	28	— 2.2	77	NE	2	0.9	.....	0	Fog	.....	.....	0	0	Light fog	
Stockton, Texas	26.76	679.7	29.76	755.9	30	10.0	32	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.19	766.8	30.25	768.3	35	1.7	61	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.30	744.2	30.00	762.0	39	3.9	64	S	12	5.4	.....	5c	0	SW	.....	0	0	Fair	
Tucson, Arizona	27.36	694.9	29 91	759.7	40	4.4	18	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Umatilla, Oregon	29.56	750.8	30.07	763.8	29.5	— 1.4	82	SW	16	7.2	.....	0	5s	.....	W	0	0	Fair	
Uvalde, Texas	28.96	735.6	29.82	757.4	30	2.2	80	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.65	753.1	29.91	759.7	39	3.9	73	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	29.89	696.8	29.37	746.0	0	—17.8	70	Calm	0	0	.....	5c	0	W	.....	0.67	17.0	Fair	
Visalia, California	9.60	751.8	29.98	761.5	32	0.0	89	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Washington, D. C.	30.13	765.3	30.26	768.6	27	— 2.8	88	W	1	0.4	.....	8c	Sm'e	W	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	63	NW	.....	.....	1	2c	0	SW	.....	0	0	Fair	
Wilmington, North Carolina	29.93	760.2	30.01	762.2	43	6.1	92	NE	9	4.0	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Winnemucca, Nevada	25.41	645.4	29.77	756.1	13	—10.6	81	SW	8	3.6	.....	0	1s	.....	SW	0.03	0.8	Clear	
Wood's Holl, Massachusetts	30.17	766.3	30.21	767.3	37	2.8	80	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.37	720.6	29.71	754.6	22	— 6.6	72	NW	24	10.7	.....	10k	0	NW	.....	0	0	Cloudy	
Yuma, Arizona	29.65	753.1	29.80	756.9	54	12.2	45	NW	17	7.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Sub-Series.																			
Bogota, U. S. Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.72	754.9	29.77	756.1	77	25.0	82	SE	2.4	1.1	.....	.....	8n	.....	S	0.03	0.8	Light rain	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	76	24.4	83	Calm	0	0	.....	8ck	2es	Calm	.....	0	0	Fair	James Gall.
Nassau, W. I.	29.85	758.2	29.93	760.2	76	24.4	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.94	760.5	29.94	760.5	79	26.1	87	E	.....	.....	3	.....	10n	.....	.....	2.050	52.07	Raining	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.25	742.9	29.80	756.9	79	26.1	85	Calm	.....	.....	0	.....	10n	.....	.....	0.76	19.3	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	29.93	760.2	29.96	761.0	74	23.3	85	Calm	0	0	.....	8ck	0	SW	.....	Blank	Blank	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.75	755.6	29 81	757.2	— 7.0	—21.7	80	E	26	11.6	.....	.....	10p	.....	E	0.10	2.5	Snow-drift	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,393 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,806 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.86 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.80 in., or 46.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 6.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.6 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.99 in., or 59.1 mm.; Winnemucca, 4.93 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	29.75‡	755.6‡			48	8.9	85	NNW	12	5.4			10		N					Threatening	
Navy Yard, Portsmouth, N. H	30.09‡	764.3‡			24	— 4.4	87	W	2	0.9			2							Clear.	
Alaska, Coquimbo, Chili	*29.90‡	759.4‡			62	16.7	77	W			2		0							Blue sky	
Colorado, New York, N. Y	30.29‡	769.4‡			32	0.0	100	Calm	0	0			Fog			0	0			Dense fog	
Constitution, N. 17° 36′, W. 65° 05′	30.00‡	762.0‡			76	24.4	73	ENE			3		1		Calm			Smooth		Clear	
Enterprise. Smyrna, Turkey	30.40‡	772.1‡			43	6.1	59	E			4		2		E			Mod'ate		Clear.	
Franklin, Off Navy Yard, Norfolk, Va	30.17‡	766.3‡			44	6.7	76	NE	9	4.0			8		NW	0	0			Fair	
Independence, Mare I'd, Navy Yard, Cal	29.91‡	759.7‡			42	5.6	74	Calm	0	0			0?							Rainy?	
Kearsarge, Key West, Fla	29.82‡	757.4‡			76	24.4	86	SSE			4–5		10		SSE			Smooth		Cloudy	
Lackawana, N. 34° 45′, W. 140° 40′	†30.54‡	775.7‡			56	13.3	87	NE			3		2		NE			Long	NE	Fair	
Marion, S. 13° 38′, W. 36° 00′	29.93‡	760.2‡			82	27.8	79	ENE			4		8		ENE; c	Light	Light	Smooth	ENE	Clear	
Michigan, Erie, Pa	30.06‡	763.5‡			36	2.2	71	SSE			2		2		SSE					Fair	
Monocacy, Shanghai, China	30.66‡	778.7‡			25	— 3.9	100	NW			0–1		0							Clear	
New Hampshire, Port Royal, S. C	29.88‡	758.9‡			50	10.0	100	NE	27	12.1			10		Calm	0.40	10.2			Threatening	
Nipsic, La Guayra, Venezuela, S. A	29.96‡	761.0‡			75	23.9	77	ENE			1		2					Light	NE	D. clouds	
Onward, Callao, Peru	†29.85‡	758.2‡			66	18.9	94	SE			2		10					Mod'te smooth	W	Foggy	
Palos, Tientsin, China	30.44‡	773.2‡			25	— 3.9	100	WSW			1		0							Clear.	
Passaic, Washington, D. C	30.25‡	768.3‡			25	— 3.9	87	NE			1		8							Cloudy	
Pensacola, Callao, Peru	29.85‡	758.2‡			65	18.3	94	Calm			0		10					Smooth		Foggy	
Powhatan, Off Ellis I'd., N. Y. Harbor	30.23‡	767.8‡			35	1 7	90	NNW			1		2			0	0			Fair	
Quinnebaug, Leghorn, Italy	30.20‡	767.1‡			52	11.1	47	E			4		8		E					Fair	
Ranger. N. 34° 35′, W. 144° 19′	30.52‡	775.2‡			56	13.3	75	NE			3		10		NE			Mod'ate		Cloudy	
Richmond, Hong-Kong, China	30.39‡	771.9‡			47	8.3	85	N			2–3		10					Smooth			
Rio Bravo, Brownsville, Texas	†30.16‡	766.1‡			50	10.0	93	SW	4	1.8			0			0	0			Clear.	
Santee. Annapolis, Md	30.26‡	768.6‡			32	0.0		N			1		8		SW	0	0			Hazy	
Shenandoah, Montevideo, Uruguay	29.92‡	760.0‡			66	18.9	68	ESE			3		5		ESE			Mod'te	ESE	Fair	
St. Louis, League Island, Pa	30.27‡	768.8‡			29	— 1.7		Calm	0	0			8		wsw	0	0			Foggy	
Swatara, N. 41° 19′, W. 58° 09′	30.12‡	765.0‡			48	8.9	78	NE			2		10		NE			Smooth		Hazy	
Tennessee, Norfolk, Va	30.16‡	766.1‡			43	6.1	83	NE	4	1.8			10		Calm					Showery	
Trenton, Port Mahon, Minorca, Med	29.93‡	760.2‡			58	14.4	70	E			4		10		NE	Blank	Blank			Cloudy	
Tuscarora, La Union, S. Salvador	29.92‡	760.0‡			78	25.6	86	W			1		0					Smooth		Clear.	
Wabash, Boston, Mass	30.24‡	768.1‡			30	— 1.1	89	Calm	0	0			2			0	0			Hazy	
Wyoming, Villafranca, France	30.13‡	765.3‡			52	11.1	54	E			3–5		2		E			Smooth	E	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer																			John France.
S. S. Moravian, J. Graham																			
S. S. Peruvian																			A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																			
S. S. Sarmatian, A. D. Air, N. 58° 15′, W. 24° 10′		29.66‡	783.4‡	49	9.4		WNW			6		10		WSW		Cross	W; NW	Cloudy	A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr.
S. S. Indiana, R. W. Sargent																			
Philadelphia, Pa		30.44‡	773.2‡	48	8.9		NE			1		2		N	0			Clear	Wm. Shackford.
S. S. Ohio, Henry Morrison																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 48° 27′, W. 21° 27′		30.21‡	767.8‡	55.0	12.8	81	SW			4		8		S	0	Mod'ate	SW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 25′, W. 64° 41′		30.04‡	763 0†				SW			4		8		SW		Long	S	Cloudy	
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, N. 32° 28′, W. 167° 52′		29.82‡	757.4‡	68	20.0	84	S			6		10		S		Heavy	S	Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, N. 34° 45′, E. 139° 54′		29.77‡	756.1‡	48	0.1		NW			6		ks		W	0	Rough	NW	Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd.†		29.65‡	753.1‡	28	— 2.2		SW			2		2		SSW				Fair	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China.		30 26‡	768.6‡	56	10.0	79	NE			3		10			0	Smooth		Misty	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 32° 08', W. 138° 32'		30.48‡	774.2‡				NE			5				NE		Heavy	NE	Squally	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson N. 45° 43', W. 46° 36'		30.00‡	762.0‡	38	3.3		WSW	30	13.4			10		W	0	Smooth	WSW	Cloudy	
S. S. Nederland, S. Stokes. N. 49° 48', W. 9° 10'		30 27‡	768.8‡	50	10.0		SSW			2		5		SW	0	Mod'ate	WNW	Fine	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, N. 50° 24', W. 20° 18'		30.05‡	763.3‡	52	11.1		WSW			5		8		WSW	0	Mod'ate	W	D. clouds	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark, Carrie Heckle, B. F. Woodbury. S. 41° 48', E. 24° 54'		29.80‡	756.9‡	63	17.2		NNE			4		5		N		Cross	W;NNE	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. Arroyo, Porto Rico, W. I.†		30.14‡	765.5‡	75	23.9		ENE			5		2		NE	Showers	Smooth		Clear	
Iron Cross, W. Randall, N. 53° 15', W 5°30'		30 30‡	769.6‡	38.4	3.6	90	SSW			4		10		SW	0	Smooth	SSW	Overcast	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, *fog* and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 27, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco								NW			2		6					Cloudy	
Nemours			30.04	762.9				E			2		10			0.236	6.0	Cloudy	
Algiers			29.93	760.2	52.7	11.5	85	E			2		10			0.283	7.2	Covered	Kesxuche.
La Calle			29.95	760.8	56.1	13.4	75	NE			3		8			0	0	Very cloudy	Tourillere.
Tunis			29.98	761.5	58.3	14.6	79	NW			2		4			0.063	1.6	Cloudy	Foufrede.
Sfax																			Jacques.
Saida			30.01	762.3															Gau.
Tebessa			29.81	757.2															Herbin.
Geriville			30.05	763.2	46.6	8.1	78	Calm			0		8			0.028	0.7	Very cloudy	Watrin.
Laghouat								S			4		8			0.197	5.0	Very cloudy	Brugniaux.
Biskra			30.00	762.1	49.3	9.6	34	E			4		10			0	0	Covered	Bertrand.
			29.97	761.2	59.7	15.4	78	NW			1		10			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.99	761.8	30.59	776.9	25.5	— 3.6	96					10				0.512	13.0	Snowing	Prof. Ivan Stozir
Cracow, I. R. Observatory	29.81	757.1	30.65	778.4	18.3	- 7.6	89	NNW	0	0		0				0	0		Dr. Wierzbicki.
Eperies	29.71	754.6	30.69	779.6	12.2	—11.0	86	Calm			0	0				0	0		Julius Mikolik.
Gratz	29.28	743.6	30.69	777.9	25.9	— 3.4	56	SSW			2	10				0	0		Andreas Rospini.
Hermannstadt	29.12	739.7	30.72	780.2	13.3	—10.4	86	NNW			1	0				0	0		Prof. A. Gottschling.
Kremsmünster	28.93	734.8	30.38	771.6	22.6	- 5.2	90	ENE			3	5				0	0		Prof. C. Wagner.
Lemberg	29.58	751.2	30.64	778.3	26.1	— 3.3	96	S			1	0				0	0		Dr. T. Stanecki.
Pola	30.24	768.2	30.36	771.2	35.1	1.7	77	NE			1	10				0.157	4.0	Snowing	I.R.Hydrographic Office
Szathmar	30.23	767.8	30.74	780.8	19.8	— 6.8	89	E			2	0				0	0		Pet. Pancsics, S. J.
Szegedin	30.34	770.7	30.65	778.5	21.2	- 6.0	79	Calm			0	4				0	0		Karl Stancel.
Trieste	30.28	769.1	30.38	771.7	34.0	1.1	65	ENE			3	10				Inap.	Inap.	Snowing	P. Busin.
Vienna	29.84	758.0	30.61	777.6	22.3	— 5.4	76	SE			2	1				0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.15	765.7	30.36	771.2	38.3	3.5	85	E			1	0				6	0	Light fog	Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck	30.24	768.2	30.37	771.4	28.4	— 2.0	84	ENE			2	0				0	0	Foggy	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.94	760.5	30.04	763.0	39.5	4.2	.....	S	16	7.2	.....	.....	9	.....	.....	0	0	Overcast'....	W. Boswell.
Ardrossan	30.11	764.8	30.13	765.3	43	6.1	.....	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast....	G.Carrick.
Armagh, (Observatory)	29.93	760.2	30.18	766.6	39.6	4.2	.....	SSW	5	2.2	.....	.....	10	.....	.....	.....	.....	Overcast....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.31	769.9	35.1	1 7	.....	SE	9	4.0	.....	.....	4	.....	.....	.....	.....	D. clouds....	John Haltnup.
Bolton (Sharples)	29.75	755.6	30.29	769.4	29.2	— 1.6	.....	SSW	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Bradford, Yorkshire	29.88	758.9	30.28	769.1	33.5	0.8	87	NW	.....	.....	2	.....	4	.....	.....	0	0	D. clouds....	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.96	761.0	77.0	25.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D clouds....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.24	768.1	30.34	770.6	37.5	3.1	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. Todd.
Cardington	.....	.....	30.33	770.4	30.0	— 1.1	.....	NW	.....	.....	0-1	.....	5	.....	.....	.....	.....	Foggy	John McLaren.
Chatham (School M. E.)	30.23	767.8	30.37	771.4	33.2	0.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	W. Gibson, Sapper, R.E.
Dollyghadee	30.13	765.3	30.17	766.3	42	5.6	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.31	769.9	30.34	770.6	34	1.1	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	30.14	765.5	30.38	771.6	37 7	3.2	.....	NNE	.....	.....	1	.....	2	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, Natal	27.47	697.7	29.69	754.1	89.7	32.1	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.05	763.3	46	7.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Overcast....	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.92	760.0	30.12	765.0	40.3	4.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.37	771.4	30.38	771.6	34	1.1	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.19	766.8	30.38	771.6	31.1	— 0.5	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	30.09	764.3	30.32	770.1	42.5	5.8	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr.S.E Hoskins, F.R.S.
Helston	30.46	773.7	30.59	777.0	40	4.4	.....	NE	.....	.....	2	2c	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.20	767.1	30.28	769.1	39	3.9	.....	SSW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	30.06	763.5	30.37	771.4	41.6	5.3	.....	NNE	.....	.....	1	.....	0	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew (Observatory)	30.34	770.6	30.37	771.4	24.8	— 4.0	.....	NNW	3	1.3	.....	.....	Fog	.....	.....	.....	.....	Foggy	The Met'g'l Office.
Leicester (Museum)	30.08	764.0	30.36	771.1	26.5	— 3.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.94	760.5	30.02	762.5	59.6	15.3	.....	SE	.....	.....	2	.....	8kn	.....	.....	.....	.....	Showery....	A. King.
Nairn	29.82	757.4	29.91	759.7	46	7.8	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau, Bahamas	.....	.....	29.90	759.4	69.0	20.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	30.16	766.1	30.37	771.4	28.3	— 2.1	.....	Calm	.....	.....	0	.....	10s	.....	.....	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.80	756.9	30.36	771.1	28.5	— 1.9	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.13	765.3	30.39	771.9	27	— 2.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.28	769.1	30.36	771.1	34.8	1.6	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Misty.....	John Merrifield.
*Roche's Point	30.15	765.8	30.32	767.6	46	7.8	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded..	Wm. Kennedy.
St. Ann's Head	30.16	766.1	30.33	770.4	40	4.4	.....	S	.....	.....	3	.....	4	.....	.....	.....	.....	Misty.....	Wm. Walker.
Sandwick Manse, Orkneys	.....	.....	29.86	758.4	45.4	7.4	.....	SW	13	5.8	.....	.....	10	.....	.....	.....	.....	Raining	John C. Walker, L.L.D.
Scutari Cemetery, Turkey	30.58	776.7	30.65	778.5	33.4	0.8	.....	NE	.....	.....	2	.....	9	.....	.....	Blank	Blan	Gloomy.....	Rev. C.Clouston, L.L.D.
Sheffield	30.03	762.7	30.34	770.6	39.6	4.2	.....	Calm	.....	.....	0	.....	1	.....	.....	0	0	Blue sky.....	Serg't W. H. Lyne.
Silloth Rectory	30.18	766.6	30.21	767.3	38.9	3.8	85	S	.....	.....	4	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Stonyhurst (Observatory)	.....	.....	30.29	769.4	29.7	— 1.3	.....	S	0	0	.....	.....	0	.....	.....	.....	.....	Misty.....	Rev. F. Redford, A.M.
Strathfield, Turgiss	.....	.....	.....	.....	25.9	— 3.4	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Foggy	Rev. S. J. Perry.
Truro (Royal Institution)	30.26	768.6	30.35	770 9	44	6.7	.....	SE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Rev.C.H.Griffith, F.M.S.
Valencia Observatory)	30.11	764.8	30.14	765.5	50.3	10.2	.....	S	34	15.2	.....	.....	10	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Sub-Series.																			The Met'g'l Office.
Cape Town (C. G. H. Obs'y)	30.02	762.5	30.06	763.5	72	22.2	62	S	9.3	4.2	.....	2	5ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.74	679.2	.....	.....	75	23.9	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc't'l'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.81	757.2	30.00	761.9	81.0	27.2	60	E	22.5	10.1	.....	0	4	.....	SE	0.08	2.0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.02	762.5	30.11	764.8	68.4	20.2	70	Calm	0	0	.....	.....	0	.....	.....	0	0	Very fine....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.86	758.4	45	7.2	.....	SW	.....	.....	4	.....	10	.....	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	29.69	754.1	.....	.....	.....	W	.....	.....	6	7	4	SW	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Fortescue Bay, Patagonia	.....	.....	29.301	744.2‡	43.2	6.2	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Showery.....	Capt. A. J. Brown
City of Agra, S. 55° 30′ W. 79° 00′	.....	.....	29.36‡	745.7‡	44.2	6.8	.....	WSW	.....	.....	6	.....	6	.....	.....	.....	.....	Showery.....	Capt. Thos. Young.
City of Cashmere, S. 43° 04′, W. 35° 00′	.....	.....	29.96‡	761.0‡	52.5	11.4	.....	ESE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast....	Capt. W. M. Grieve.
Barque Commewyne, N. 42° 40′, W. 25° 00′	.....	.....	30.05‡	763.3‡	59.5	15.3	.....	S	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds....	Capt. Jas. Buchan.
Barque Dochra, S. 49° 51′ W. 109° 22′	.....	.....	30.04‡	763.0‡	50	10.0	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	W	Foggy	Capt. N. Spalding.
Barque Fedalma, N. 49° 45′, W. 10° 10′	.....	.....	30.22	767.6	54	12.2	.....	SSE	.....	.....	5	.....	10	.....	.....	3	W	Overcast....	Capt. H. L. Fox.
Bqte Fylde, N. 45° 00′, W. 35° 25′	.....	.....	29.49	749.0	55	12.8	.....	E	.....	.....	4	.....	10	.....	.....	5	WNW	Raining	Capt. L. C. Dart.
S. S. German, East London, Cape Colony	.....	.....	29.84‡	757.9‡	67	19.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	Capt. O. D. Coxwell.
S. S. Richmond, Nurse Cay, Bahama Islands	.....	.....	29.98	761.5	76	24.4	.....	SSE	.....	.....	5	.....	6	.....	.....	3	SE	Squally.....	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 3° 17′ E. 85° 45′	.....	.....	29.88‡	758.9‡	82.4	28.0	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Capt. W. P. Hughes.
S. S. Strathleven, N. 38° 55′, W. 9° 30′	.....	.....	29.98	761.5‡	54.5	12.5	.....	N	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Capt. C. W. Penrson. Capt. C. M. Dobson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloudd. Amount. Up'er 0—10.	Cloudd. Amount. L'w'r 0—10.	Cloudd. Direction. Upper. From—	Cloudd. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
San José	26.19	665.2	29.91	759.7	66.6	19.2	81	NE	.....	.....	2	.....	4d	.....	E	0	0	.....	Federico Maisou.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.35	770.8	30.30	772.0	24.4	— 4.2	97	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Foggy
Faröe	30.35	770.9	30.37	771.4	32.0	0.0	90	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.72	754.9	29.76	756.0	—3.6	—19.7	87	ENE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.80	731.5	28.84	732.6	24.3	— 4.3	98	SW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	Snowing
Thorshavn (Faröe)	29.53	750.0	29.56	750.9	41.7	5.4	78	SW	.....	.....	5	.....	7	.....	.....	.....	.....	.....	Rain & hail.
Vestervig	30.17	766.2	30.28	769.0	35.2	1.8	88	SSW	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.79	756.7	30.34	770.7	38.3	3.5	50	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.26	768.5	30.37	771.5	31.6	— 0.2	89	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.09	764.3	30.36	771.2	28.0	— 2.2	85	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.19	766.7	30.26	768.7	43.5	6.4	44	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.74	755.5	30.35	770.9	20.3	— 6.5	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	C. Saillard, Director.
Beauvais, Normal School	30.07	763.8	30.35	771.0	28.2	— 2.1	72	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.46	748 8	30.43	773.0	21.7	— 5.7	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.02	762.6	30.22	767.6	48.0	8.9	61	SW	.....	.....	1	2c	.....	.....	.....	0	0	Almost clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.45	747.9	30.36	771.1	22.3	— 5.4	100	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.56	750.9	30.15	765.8	29.8	— 1.2	84	N	.....	.....	1	.....	10n	.....	N	0	0	Lightly cov'd	M. Gence, Director.
Brest, Naval Observatory	30.10	764.5	30.34	770.7	44.6	7.0	71	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.20	769.3	30.37	771.4	33.3	0.7	79	NNE	.....	.....	1	.....	1	.....	NNE	0	0	Clear	M. Bletrin, Director.
Carcassonne, N. School	29.77	756.2	30.10	766.8	52.3	11.3	46	E	.....	.....	1	.....	1	.....	E	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'l	29.99	761.8	30.34	770.5	27.1	— 2.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.71	754.5	30.31	769.8	29.5	— 1.4	56	N	.....	.....	2	.....	0	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.83	732.3	30.23	767.7	44.4	6.9	26	E	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Alluard, Director.
Commercy, Normal School	29.42	747.3	30.36	771.2	18.7	— 7.4	.....	E	.....	.....	1	.....	1	.....	E	0	0	Clear.	Dr. Coullet, Director.
Commune de Gréasque*	29.10	739.0	30.20	768.0	50.0	10.0	31	NE	.....	.....	2	.....	5	.....	NW	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.53	750.1	30.37	771.3	22.6	— 5.2	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.10	764.4	30.33	770.4	40.6	4.8	56	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.02	762.4	30.34	770 7	32.0	0	70	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.37	745.9	30.28	769.2	20.3	— 6.5	84	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.23	767.8	30.34	770.6	39.2	4.0	73	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	30.07	763.6	30.34	770.6	24.4	— 4.2	72	ENE	.....	.....	1	.....	0	.....	.....	0	0	Hazy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.92	760.0	30.19	766.9	55.9	13.3	31	W	.....	.....	1	.....	2	.....	ESE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.24	742.6	30.39	772.0	9.7	—12.4	77	NNE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Barbier, Director.
Mont-Louis	24.86	631.5	30.18	766.5	33.8	1.0	76	NE	9.4	4.2	.....	.....	2	.....	SE	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.16	766.0	30.19	766.8	55.0	12.8	49	E	.....	.....	4	.....	1	E	E	0	0	Clear.	Capt. Boissière, Director.
Nismes, Normal School	29.97	761.2	30.18	766.5	50.5	10.3	65	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.04	763.1	.....	.....	27.7	— 2.4	77	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	30.12	765.0	30.23	767.9	50.2	10.1	60	E	1.8	0.8	.....	.....	0	.....	.....	0	0	Foggy	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.47	570.7	.....	.....	29.3	— 1.5	.....	.....	.....	.....	.....	.....	.....	.....	SE	0	0	.....	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puy de Dome (Summ') Obs	29.16	740.6	30.28	769.1	35.6	2	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Tailleu
Rochefort, Naval Obs'y	25.23	640.9	.....	.....	34.0	1.1	27	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Alluard, Director.
Rouen, Normal School	30.25	768.4	30.28	769.2	41.4	5.2	58	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.27	768.8	30.35	771.0	30.6	— 0.8	77	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Frère Lucard, Director
Saint Maur (near Paris)	30.29	769.4	30.32	770.2	38.3	3.5	64	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Lt. Hercouet, Director
Tarbes, Normal School	30.17	766.2	30.33	770.4	28.4	— 2.0	68	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Renou, Director.
Toulouse, Observatory	29.09	738.9	30.19	766.9	48.2	9	36	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director.
Tours	29.54	750.2	30.26	768.7	45.7	7.6	66	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	R. Bailland, Dir.
Versailles, Observatory	30.10	764.5	30.30	769.5	34.2	1.2	78	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. de Tastes.
Villefranche-sur-Saone, N.S	29.82	757.4	30.31	769.9	28.4	— 2.0	72	E	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Sun-Series.	29.54	750.2	30.30	769.6	29.3	— 1.5	90	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Nicot, Director.
Fort de France, Martinique	29.96	761.0	29.99	761.7	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.	.....	L'Abbé Marchési
Zi-Ka-Wei (near Shanghai)	30.48	774.1	30.50	774.7	29.5	— 1 4	90	WSW	5.6	2.5	.....	3ck	.....	WSW	.....	0	0	Fair	Marc Dechevrens. S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in gene al terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.50	749.3	30.37	771.5	19.4 — 7.0		68	NW			4		3s			0	0		Prof. Dr. Hoh.
Berlin	30.29	769.3	30.47	774.0	31.3 — 0.4		63	SE			1		0			0	0		Prof. Dr. Arndt.
Breslau	30.00	762.1	30.54	775.8	26.4 — 3.1		74	SE			4		0			0	0		Royal University Obs'y.
Carlsruhe	29.92	759.9	30.38	771.7	23.0 — 5.0		77	NE			2		0			0	0	Light fog	Albert Senz.
Cassel	29.82	757.4	30.43	773.0	15.4 — 9.2		74	NE			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.11	764.7	30.49	774.5	27.5 — 2.5		47	NE			2		1			0	0		Physical Society.
Friedrichshafen	28.86	733 1	30.42	772.6	19.2 — 7.1		72	SE			2		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.36	771.1	30.43	772.9	25.0 — 3.9		89	SE			2		1			0	0	Light haze	Dr. Reinhold Kleeman.
Kiel	30.39	771.8	30.40	772.2	29.1 — 1.6		84	SW			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.45	773.3	30.54	775.6	18.0 — 7.8		76	SW			2		0			0	0		Prof. E. Luther.
Köslin			30.48	774 3	23.2 — 4.9			S			2		0			0	0		H. Müller.
Leipsic Observatory	30.03	762.8	30.48	774.2	27.0 — 2.3		63	SSE			1		0			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.21	767.4	30.45	773.3	26.6 — 3.0		72	SSE			1		0			0	0	Foggy	Dr. Assmann.
Memel	30.40	772.2	30.45	773.4	31.3 — 0.4		96	SW			5		5cs						Reinbrecht & Issermann.
Munich (München)	28.45	722.5	30.33	770.3	14.2 — 9.9		86	N			2		0			0	0		Dr. C. Lang.
Neufahrwasser	30.54	775.6	30.55	776.0	26.8 — 2.9		70	SSW			2		3			0	0		A. Lothes.
Neustadt (Palatinate)	29.83	757.6	30.36	771.2	27.5 — 2.5			NE			1					0	0		Reallehrer Dicknether.
Posen	30.24	768.1	30.56	776.1	24.4 — 4.2		91	SE			4		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.84	757.9	30.45	773.5	13.5 —10.3		93	Calm			0		3			0	0		Imp. University Observatory.
Stuttgart	29.38	746.2	30.40	772.1	21.2 — 6.0		74	NE					0			0	0		Prof. Dr. Schoder.
Thorn	30.43	772.8	30.62	777.7	25.9 — 3.4		75	S			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.82	731.9	30.41	772.4	23.9 — 4.5		76	NE	1.3	0.6						0	0	Light fog	Reallehrer J. Hopfner.
Wustrow	30.41	772.3	30.43	772.9	25.5 — 3.6		100	SE			3		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	30.10	764.6	30.51	774.9	44.4	6.9		N			7.0		5					½ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.99	761.8	30.04	763.1	73.0	22.8	40	NW	2	0.9			2			0	0	D. clouds	
Deesa	29.57	751.1	29.95	760.8	76.2	24.6	28	SW	8.7	3.9			4	WNW		0	0	D. clouds	
Bombay	29.92	759.8	29.95	760.8	77.6	25.3	72	NW	13	5.8			6	NW		0	0	D. clouds	
Poona (Yarrowda)	28.10	713.7	29.17	761.2	78.5	25.8	13	ESE	5	2.2			2	W		0	0	D. clouds	
Belgaum	27.39	695.8	29.96	761.1	71.1	21.7	13	E	8	3.6			0			0	0	Blue sky	
Lahore	29.30	744.3	30.08	764.1	60.6	15.9	42	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	29.14	740.3	30.08	764.0	65.2	18.4	53	SW	1.4	0.6			2			0	0	D. clouds	
Agra	29.49	749.0	30.08	764.1	60.3	15.7	55	Calm	1.3	0.6			8		E	0	0		
Nagpur	28.95	735.2	30.01	762.2	73.1	22.8	46	Calm	2.5	1.1			4	W		0	0	D. clouds	
Jubbulpore	28.65	727.7	30.07	763.7	64.1	17.8	51	E	1.1	0.5			4			0	0	D. clouds	
Lucknow	29.69	754.2	30.08	764.1	69.5	20.8	54	Calm	0.1	0.04			7	WNW		0	0	D. clouds	
Allahabad	29.76	755.9	30.09	764.3	61.6	16.4	68	Calm	0.4	0.2			4			0	0	D. clouds	
Patna	29.90	759.4	30.09	764.2	68.9	20.5	51	WNW	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	27.99	710.9	30.07	763.7	64.8	18.2	49	NE	2.7	1.2			4			0	0		
Cuttack	29.94	760.5	30.03	762.7	71.1	21.7	57	ENE	5.5	2.5			1			0	0	Blue sky	
Jalcutta (Alipore)	30.00	762.0	30.02	762.6	68.5	20.3	65	WSW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.64	752.9	30.04	763.1	69.8	21.0	47	ENE	7.4	3.3			1	W		0	0	D. clouds	
Chittagong	29.91	759.8	30.00	762.1	74.8	23.8	52	NW	4.1	1.8			0			0	0		
Sibsagar	29.75	755.7	30.10	764.6	64.5	18.1	76	ENE	2.6	1.2			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.98	761.4	30.41	772.5	36.0	2.2	60	E	8.7	3.9	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.88	759.0	30.44	773.1	32.9	0.5	98	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.30	769.7	30.42	772 7	35.1	1.7	76	NNE	8.1	3.6	.....	.....	10	E	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.48	748.9	30.43	773.0	29.1	— 1.6	96	N	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.08	764.1	30.28	769.2	41.0	5.0	36	N	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.41	721.6	30.43	773.0	30.9	— 0.6	51	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.33	770.3	30.38	771.6	32.7	0.4	89	NW	10.5	4.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.03	762.8	30.31	769.8	40.1	4.5	57	NE	.....	.....	0	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.17	766.2	30.26	768.5	43.3	6.3	48	ENE	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.98	761.4	30.16	766.0	51.1	10.6	54	N	10.5	4.7	.....	.....	10	.....	.....	0.075	1.9	.....	Prof. P. S. Ferrari
Lecce	30.03	762.7	30.25	769.4	49.5	9.7	89	SE	28.7	10.6	.....	.....	10	.....	.....	0.370	9.4	.....	Prof. C. De Giorgi
Cosenza	29.30	744.1	30.30	769.6	43.2	6.2	77	SE	0.7	0.3	.....	.....	10	.....	.....	1.429	36.3	.....	Prof. D. Conti.
Cagliari	29.74	755.4	29.93	760.3	56.7	13.7	85	SE	.....	.....	2	.....	10	E	.....	0.197	5.0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.3	29.99	761.7	62.4	16.9	50	SSE	11.2	5.0	.....	.....	5	S	.....	0.311	7.9	.....	Prof. G. Cincciatore.
Syracuse	30.02	762.5	30.07	763.6	56.6	14.2	83	SE	21.7	9.7	.....	.....	10	SE	.....	0.220	5.6	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.8	30.13	765.4	50.2	10.1	71	NE	6.3	2.8	.....	.....	8	.....	.....	0.236	6.0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.30	769.6	30.31	769.9	33.6	0.9	82	NNE	2.4	1.1	.....	clr	8ks	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.15	765.8	30 36	771.1	34.4	1.3	87	N	0.7	0.3	.....	.....	7cs;ks	.....	.....	0.040	1.02	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.00	762.0	30.07	763.8	31.5	— 0.3	67	SE	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.24	768.1	30.30	769.6	36.6	2.6	87	WNW	7.6	3.4	.....	0	2cs	.....	W	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.02	635.5	30.34	770.7	31.1	— 0.5	45	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.39	619.6	30.28	769.2	43.2	6.2	74	N	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.73	755.1	29.99	761.8	60.1	15.6	75	NE	.....	.....	2	0	0	.....	.....	0	0	Very fine	F. Quijano, C. E.
Mexico, Central Observatory	23.01	584.5	30.26	768.6	38.3	3.5	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.16	612.0	.....	.....	50.9	10.5	60	E	.....	.....	6	3k	0	SE	.....	0	0	Foggy	M. Fena, M. D.
Pabellon (Aguascalientes)	23.83	605.2	30.02	762.6	33.6	0.9	60	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.24	590.4	30.23	767.9	36.5	2.5	85	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.06	611.2	30.26	768.5	39 6	4.2	57	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.91	759.8	29.93	760.1	61.5	16.4	87	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.89	759.3	29.92	760 0	60.8	16.0	80	Calm	0	0	.....	1s	0	.....	.....	0	0	Clear	Prof. J. Rossell
Zacatecas	22.47	570.6	30.23	767.1	41.0	5.0	39	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.1 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.38	771.6	30.38	771.6	30.0	— 1.1	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.35	770.8	30.40	772.2	29.5	— 1.4	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.39	771.8	30.39	771 8	31.1	— 0.5	.....	ESE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.37	771.4	30.37	771.4	30.9	— 0.6	86	ENE	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.35	771.0	30.40	772.2	35.4	1.9	54	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.01	762.3	30.07	763.7	35.6	2.0	93	S	34.4	15.4	.....	.....	10	.....	.....	1.063	27.0	Raining	
Brönö	29.51	749.5	29.55	750.5	41.0	5.0	92	SW	36	16	.....	.....	10	.....	.....	0.906	23.0	Raining	
Christiana	29.93	760.1	30.08	764.0	34.2	1.2	82	SSW	7	3	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.05	737.9	29.10	739.0	38.3	3.5	80	SW	29	13	.....	.....	10	.....	.....	0.539	13.7	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.9	30.02	762.6	53.2	11.8	51	ENE	11.2	5.0	.....	.....	6	.....	.....	0.094	2.4	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.07	763.8	30.16	766.0	62.2	16.8	60	N	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.71	754.7	30.08	764.0	51.3	10.7	58	NNE	20.6	9.2	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.14	765.6	30.21	767.4	60.8	16.0	83	S	16.1	7.2	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveira, Com'd'r.
Rio Lima. Capt. S. C. da Silva Costa, Bulama, Bissago Islands, Africa	.....	.....	.....	.....	82.4	28.0	.....	SSE	.....	.....	2	.....	3	.....	SSE	1	.....	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'r.
Sado, Capt. J. A de Brito Capello, Bahai de Cairo, about S. 13°, E. 13°	.....	.....	29.85	758.2	80.6	27.0	.....	NNW	.....	.....	2	.....	3	.....	NNW	1	NNW	D. clouds	F. de Assis Camillo, Jun., Q. M.
Tejo, Capt. J. M. T. Guimarães, Macao, China	.....	.....	30.39	772.0	55.0	12.8	.....	NE	.....	.....	3	.....	0	.....	.....	1	.....	Blue sky	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.02	762.6	30.04	763.1	— 7.2 —21.8	86	ESE	9	4	.....	.....	10	.....	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.30	769.7	30.22	767.6	— 0.2 —17.9	78	W	27	12	.....	.....	5n	.....	.....	Blank	Blank	.....	.....	Capt. Wisganow.
Barnaul	29.80	756.9	30.39	771.8	—16.8 —27.1	95	WSW	0	0	.....	.....	1	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.97	761.3	30.23	767.8	29.5 — 1.4	86	WSW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	.....	Prof. Dr. Weilrauch.
Ekaterinburg	29.01	736.9	30.09	764.3	— 5.4 —20.8	74	W	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.91	759.8	30.23	767.7	— 8.7 —22.6	87	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kieff	29.86	758.4	30.55	776.0	19.6 — 6.9	89	W	9	4	.....	c;ck	7k;ks	.....	.....	.....	.....	.....	.....	Lagorio.
Krotkowo*	29.61	752.1	30.14	765.6	— 5.4 —20.8	67	N	2	1	.....	.....	2s	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Lugan	30.14	765.6	30.37	771.4	7.2 —13.8	75	NW	18	8	.....	.....	3	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Moscow	29.67	753.7	30.29	769.3	9.7 —12.4	73	SW	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	Snowing	.....	Meteorological Obs.
Nertchinsk	27.96	710.1	30.70	779.8	—29.6 —34.2	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.63	777.9	30.70	779.7	11.8 —11.2	77	NNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.03	762.8	30.28	769.2	22.6 — 5.2	83	WNW	0	0	.....	.....	1ks	.....	.....	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.17	766.2	30.31	769.8	22.6 — 5.2	45	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.04	763.0	30.06	763.4	30.7 — 0.7	94	WSW	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow	.....	Central Physical Obs.
Tashkend	28.54	725.0	30.19	766.9	34.2 1.2	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	.....	Teich, A. M.
Tiflis	28.88	733.5	30.39	771.9	29.3 — 1.5	35	NW	31	14	.....	.....	2k	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.17	766.2	30.63	777.9	23.2 — 4.9	74	SSE	4	2	.....	.....	0	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.09	764.3	30.55	775.9	22.1 — 5.5	70	Calm	0	0	.....	.....	3	.....	.....	.....	.....	Light clouds	.....	Astronomical Obs.
Yeniseisk	30.05	763.3	30.37	771.5	— 7.4 —21.9	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.06	763.5	30.17	766.2	51.8	11	56	ENE	13.2	5.89	.....	.....	4	.....	.....	0	0	⅛ Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.17	766.2	30.23	767.7	53.8	12.1	60	SE	1.7	0.78	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.18	690.3	.....	.....	42.4	5.8	70	NE	5.4	2.42	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martin y Peres.
Madrid, Royal Observatory	27.84	707.1	30.12	765 0	46.6	8.1	63	NE	22.4	10.00	.....	2	4	SE	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.86	758.4	30.01	762.3	53.6	12.0	80	NE	6.0	2.69	.....	5	5	NW	.....	1.039	26.40	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.7	30.11	764.8	52.3	11.3	58	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.87	758.8	29.94	760.5	66.7	19.3	86	Calm	0	0	.....	4k	9kn	WNW	W	0.862	21.9	Light rain	Benito Vines, S. J.
Manilla, Philippine Islands	29.95	760.7	30.00	762.0	80.5	26.9	69	NNE	3.0	1.2	.....	2c	4ck	W	E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.1	29.95	760.7	54.5	12.5	72	NNE	2.8	1.3	.....	4	8	N	E	0.054	1.4	.....	Capt. C. Pulgzon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.8	30.04	763.1	72.7	22.6	88	SE	3.3	1.47	.....	4cks	3kn	E	SE	0.079	2.00	Cloudy	Enrique Gados, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.45	747.9	29.48	748.9	27.0	— 2.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.75	755.6	29.80	756.9	28.4	— 2.0	64	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.79	756.7	29.84	758.0	27.7	— 2.4	75	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.98	761.4	30.15	765.9	30.2	— 1.0	92	W	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	30.13	765.3	30.19	766.8	29.1	— 1.6	88	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.94	760.5	30.03	762.7	31.6	— 0.2	83	SW	20.1	9.0	.....	.....	10	.....	W	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 11° 08', W. 74° 35'	.....	.....	29.87‡	758.7‡	78.4	25.8	.....	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.86	733.1	30.39	772.0	20.5	— 6.4	92	ESE	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.66	727.9	30.43	773.0	16.2	— 8.8	83	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +5.8 mm.; Thermometer, —8 3 Cent. Relative Humidity, +15 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.71	779.9	33.1	0.6	95	NE	7	3.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf																			
Valona	.....	.....	30.30	769.6	49.1	9.5	.....	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.21	767.3	52.9	11.6	57	N	.....	.....	4	6c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	30.09	764.3	30 10	764.5	22.6	— 5.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B.	30.14	765.5	30.20	767.1	21.0	— 6.1	93	W	3	1.3	.....	2cs	8ks	W	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.23	767.8	30.28	769.1	20.8	— 6.2	100	SW	6	2.7	.....	5cs	4s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.81	757.2	30.01	762.2	26.2	— 3.2	80	E	.....	.....	1	.....	10s	.....	.....	0.34	8.6	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.98	761.5	30.16	766.1	16.0	— 8.9	.....	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	31.3	— 0.4	100	SW	28.0	12.5	.....	5c	5n	W	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B.	30.20	767.1	30.27	768.8	15.1	— 9.4	95	Calm	0	0	.....	Haze	Haze	.....	.....	0.10	2.5	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.22	742.2	30.18	766.6	—19.0	—28.3	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.77	730.7	29.91	759.7	34	1.1	.....	S	.....	.....	2	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	30.25	768.3	30.39	771.9	24.4	— 4.2	95	Calm	0	0	.....	5cs	4ks	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.60	751.8	29.98	761.5	31.7	— 0.2	94	NW	.....	.....	1	10cs	0	NW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.08	753.9	30.02	762.5	36.4	2.4	90	SW	6	2.7	.....	.....	10ks	.....	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.	30.26	768.6	30.30	769.6	28.2	— 2.1	91	SW	6	2.7	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.87	758.7	30.08	764.0	33.0	0.6	85	S	11	4.9	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.81	757.2	29.84	757.9	11.0	—11.7	88	SW	.....	.....	2	0	1	.....	.....	0.30	7.6	Clear	J. R. Nelson.
Norwood	29.22	742.2	29.94	760.5	32.2	0.1	99	SE	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.19	741.4	29.90	759.4	34.0	1.1	79	E	7	3.1	.....	2ck	5ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	30.00	762.0	28.6	— 1.9	76	N	.....	.....	1	0	4ks	.....	.....	0	0	Smoky	J. F. Joffers, M. A.
Port Dover, Ontario	29.24	742.7	29.95	760.7	35.0	1.7	90	S	2	0.9	.....	10ck	0	S	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.28	743.7	29.94	760.5	35.7	2.1	74	E	8	3.6	.....	5ck	0	SW	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.78	756.4	30.12	765.0	27.0	— 2.8	88	Calm	.....	.....	0	Haze	3s	.....	.....	0.02	0.5	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.45	748.0	29.93	760.2	29.5	— 1.4	81	SE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B.	30.12	765.0	30.29	769.4	34	1.1	79	SW	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
Sangeen, Ontario	29.16	740.7	29.89	759.2	36.4	2.4	66	S	10	4.5	.....	.....	0ks	.....	.....	0	0	Cloudy	Miss K. Stewart.
Stratford, Ontario	28.61	726.7	29.93	760.2	33.3	0.7	86	S	5.0	2.2	.....	2ck	5s	W	.....	0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B.	30.32	770.1	30.36	771.1	20.0	— 6.7	88	S	2	0.9	.....	10c	0	.....	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.59	751.6	29.98	761.5	33.7	0.9	87	SE	6	2.7	.....	5cs	5ks	SW	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S.	30.22	767.6	30.32	770.1	21.5	— 5.8	93	W	2	0.9	.....	4cs	4ks	.....	.....	0	0	Fair	Prof. John E. Oram, M.A
Woodstock, Ontario	28.74	730.0	29.84	757.9	32.8	0.4	77	SE	3	1.3	.....	7k	0	W	.....	0	0	Fair	Professor Wolverton.
Yarmouth, N. S.	30.29	769.4	30.35	770.9	33.5	0.8	97	S	6	2.7	.....	5cs	0	W	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.30	769.6	22	— 5.6	86	NW	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.20	767.1	23.0	— 5.0	.....	NW	.....	.....	3	ck	n	.....	.....	0	0	Cloudy	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,(15 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instru'm'tal error and temperature. Inches.	BAROMETER. Corrected for instru'm'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.93	760.2	30.17	766.3	38	3.3	63	S	4	1.8			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.20	741.7	29.86	758.4	35	1.7	89	NW	7	[illegible]			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	28.67	728.2	29.82	757.4	45	7.2	100	N	7	3.1			10s		Calm	0.92	23.4	Cloudy	
Atlantic City, New Jersey	30.03	762.7	30.04	763.0	47	8.3	92	E	16	7.2			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.64	752.8	29.84	757.9	47	8.3	100	N	8	3.6			10n		NE	Inap.	Inap.	Light rain	
Baltimore, Maryland	29.96	761.0	30.01	762.2	46	7.8	100	NE	7	3.1			10n		Calm	0.41	10.4	Light rain	
Barnegat, New Jersey	30.04	763.0	30.06	763.5	45	7.2	100	E	10	4.5			10s		Calm	0	0	Cloudy	
Bismarck, Dakota	28.27	718.0	30.12	765.0	—11	—23.9	100	N	8	3.6		0	0			0	0	Clear	
Boerne, Texas	28.33	719.6	29.66	753.4	44	6.7	92	SE	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	26.96	684.8	29.92	760.0	24	— 4.4	87	SE	12	5.4			10s		Calm	0.03	0.8	Cloudy	
Boston, Massachusetts	30.14	765.5	30.30	769.6	35	1.7	80	Calm	0	0		0	2s		Calm	0	0	Fair	
Brackettville, Texas	28.60	726.4	29.66	753.4	46	7.8	84	NE	7	3.1		2cs	0	Calm		0	0	Fair	
Breckenridge, Minnesota	29.05	737.9	30.18	766.6	— 7	—21.7	100	N	25	11.2		0	0			0	0	Clear	
Brownsville, Texas	29.77	756.1	29.81	757.2	62	16.7	94	S	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.23	742.4	29.94	760.5	43	6.1	67	S	2	0.9			10s		SE	0	0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.82	757.4	30.12	765.0	38	3.3	54	S	13	5.8		2ck	8ks	W	SW	0	0	Cloudy	
Cairo, Illinois	29.45	748.0	29.84	757.9	48	8.9	70	S	9	4.0		0	Haze			0	0	Clear	
Campo, California	27.30	693.4	29.87	758.7	32	0.0	89	SW	6	2.7			10n		Calm	0.70	17.8	Light snow	
Cape Hatteras, N. Carolina	29.89	759.2	29.89	759.2	63	17.2	94	SE	2	0.9			10n		SE	0.20	5.1	Light rain	
Cape Henry, Virginia	29.90	759.4	29.92	760.0	53	11.7	93	SE	7	3.1			10n		S	0.12	3.0	Light rain	
Cape Lookout, N. Carolina	29.82	757.4	29.84	757.9	59	15.0	100	E	14	6.3			10n			2.25	57.1	Heavy rain	
Cape May, New Jersey	29.98	761.5	30.01	762.2	52	11.1	86	E	16	7.2			10s		Calm	0.04	1.0	Cloudy	
Castroville, Texas	28.99	736.3	29.71	754.6	42	5.6	91	NW	2	0.9		0	0			0	0	Clear	
Cedar Keys, Florida	29.80	756.9	29.82	757.4	52	11.1	93	NW	18	8.0			10s		NW	0.09	2.3	Cloudy	
Charleston, South Carolina	29.64	752.8	29.69	754.1	60	15.6	94	NE	5	2.2		0	8s		E	1.03	26.2	Cloudy	
Charlotte, North Carolina	29.90	736.6	29.82	757.4	42	5.6	91	N	8	3.6			10n;fog		NE;Calm	0.23	5.8	Light rain	
Chattanooga, Tennessee	29.95	738.9	29.90	759.4	46	7.8	92	W	1	0.4			10s		Calm	0.02	0.5	Cloudy	
Cheyenne, Wyoming	23.68	601.5	29.61	752.3	—10	—23.3	76	NW	6	2.7		0	0			0.13	3.3	Clear	
Chicago, Illinois	29.06	738.1	29.76	755.9	42	5.6	83	S	3	1.3		2ck	2s	S	Calm	0	0	Fair	
Cincinnati, Ohio	29.26	743.2	29.92	760.0	38	3.3	72	SE	1	0.4			Fog,su		Calm	0	0	Dense smoke	
Cleveland, Ohio	29.16	740.7	29.90	759.4	39	3.9	82	SE	12	5.4		1k	8ks	Calm	SE	0	0	Cloudy	
Coleman City, Texas	28.00	711.2	29.69	754.1	41	5.0	74	Calm	0	0		5cs	0	Calm		0	0	Fair	
Columbus, Ohio	29.05	737.9	29.90	759.4	40	4.4	73	SE	4	1.8			Fog		Calm	0	0	Foggy	
Concho, Texas	27.76	705.1	29.43	747.5	45	7.2	68	NW			1	0	0			0	0	Clear	
Corsicana, Texas	29.32	744.7	29.79	756.7	47	8.3	77	S				0	0			0	0	Clear	
Davenport, Iowa	29.09	738.9	29.73	755.1	36	2.2	80	NE	4	1.8		1cs	0	Calm		0	0	Clear	
Dayton, Washington T'y					26	— 3.3	88	S	4		2	10k	0	SW		0.14	3.6	Cloudy	
Deadwood, Dakota	25.15	638.8			13	—10.6	44	Calm	0	0			10n		Calm	Inap.	Inap.	Light snow	
Decatur, Texas	28.63	727.2	29.78	756.4	54	12.2	43	SW	4	1.8		8cs	0	SW		0	0	Cloudy	
Denison, Texas	28.92	734.6	29.70	754.4	50	10.0	65	S	7	3.1		8cs	0	S		0	0	Fair	
Denver, Colorado	24.50	622.3	29.72	754.9	13	—10.6	81	N	2	0.9			10n		Calm	0.20	5.1	Light snow	
Des Moines, Iowa	28.84	732.5	29.74	755.4	31	— 0.6	79	NE	10	4.5		0	0		Calm	0	0	Clear	
Detroit, Michigan	29.16	740.7	29.84	757.9	38	3.3	63	S	4	1.8		0	2s		Calm	0	0	Clear	
Dodge City, Kansas	27.19	690.6	29.57	751.1	22	— 5.6	72	N	19	8.5		5k	5s	NE	N	0	0	Cloudy	
Dubuque, Iowa	29.08	738.6	29.79	756.7	36	2.2	80	N	7	3.1			10ks;fg		Calm	0	0	Cloudy	
Duluth, Minnesota	29.32	744.7	30.06	763.5	10	—12.2	79	W	1	0.4		0	0			0.02	0.5	Clear	
Eagle Pass, Texas	29.03	737.3	29.77	756.1	42	5.6	66	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	30.19	766.8	30.26	768.6	37	2.8	90	S	6	2.7		8c	Haze	NW	Calm	0	0	Fair	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.21	741.9	29.93	760.2	43	6.1	75	S	6	2.7			10s		Calm	0	0	Cloudy	
Escanaba, Michigan	29.28	743.7	29.96	761.0	29	— 1.7	67	N	12	5.4			10s		N		0	Cloudy	
Florence, Arizona	28.35	720.1	29.95	760.7	35	1.7	80	S	4	1.8		8k	0	S			0	Fair	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.08	713.3	30.21	767.3	—15	—26.1	71	[illegible]	0	0		0	0			0	0	Clear	
Fort Custer, Montana	26.66	677.7			3	—16.1	73	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	24.97	634.2	29.93	760.2	43	6.1	59	SW	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.13	739.9	29.66	753.4	51	10.6	46	SE	10	4.5			10s		S	0	0	Cloudy	
Fort Grant, Arizona	25.89	657.6	29.69	754.1	35	1.7	53	NW	10	4.5		0	8s		NW	0	0	Cloudy	
Fort Griffin, Texas	28.45	722.2	29.69	754.1	53	11.7	54	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.21	691.1			— 1	—18.3	39	NW	8	3.6		0	0			0	0	Clear	
Fort McKavett, Texas	27.50	698.5	29.42	747.3	41	5.0	49	W	6	2.7		9cs	0	W		0	0	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.48	723.4	29.60	751.8	40	4.4	39	SE	4	1.8		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.26	717.8			—14	—25.6	73	SW	4	1.8		0	0			0	0	Clear	
Fort Verde, Arizona					39	3.9	64	SW			4	5k	0	W		0	0	Fair	
Fort Yates, Dakota																			
Fredericksburg, Texas	27.96	710.2	29.51	749.5	50	10.0	65	S	3	1.3		2cs	0	Calm		0	0	Fair	
Galveston, Texas	29.81	757.2	28.85	758.2	61	16.1	82	S	6	2.7		0	0			0	0	Clear	
Graham, Texas	28.65	727.7	29.68	753.9	54	12.2	87	Calm	0	0			10s		SW	0	0	Cloudy	
Grand Haven, Michigan	29.12	739.6	29.77	756.1	42	5.6	66	S	1	0.4			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.77	730.7	29.69	754.1	49	9.4	44	NW	14	6.3		0	8s		W	0	0	Cloudy	
Indianapolis, Indiana	29.03	737.3	29.82	757.4	41	5.0	57	SE	4	1.8		Sm'e	2s	Calm	Calm	0	0	Fair	
Indianola, Texas	29.82	757.4	29.85	758.2	61	16.1	82	S	13	5.8		1c	0	SW		0	0	Clear	
Jacksboro, Texas	28.61	726.7	29.72	754.9	50	10.0	86	S	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	29.71	754.6	29.73	755.1	57	13.9	87	W	6	2.7			10s		W	0.40	11.7	Cloudy	
Keokuk, Iowa	29.04	739.6	29.66	753.4	36	2.2	80	N	5	2.2		1cs	2s'Sm	SW	Calm	0	0	Fair	
Key West, Florida	29.87	758.7	29.90	759.4	70	21.1	75	W	18	8.0		2k	0	N		0.69	17.5	Fair	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	53	11.7	100	SE	14	6.3			Fog		NE	0.15	3.8	Foggy	
Knoxville, Tennessee	28.89	733.8	29.90	759.4	45	7.2	84	NE	2	0.9			10ks		SE	0.01	0.3	Cloudy	
La Crosse, Wisconsin	29.12	739.6	29.89	759.2	27	— 2.8	88	NE	16	7.2			10n		Calm	Inap.	Inap.	Light snow	
La Mesilla, New Mexico	25.83	656.1	29.98	761.5	27	— 2.8	53	Calm	0	0		1c	0	Calm		0	0	Clear	
Laredo, Texas	29.50	749.3	29.84	757.9	61	16.1	71	S	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	28.69	728.3	29.65	753.1	32	0.0	79	N	7	3.1			10s			0	0	Cloudy	
Lewiston, Idaho																			
Little Rock, Arkansas	29.47	748.5	29.83	757.7	43	6.1	75	SE	1	0.4		0	Haze		Calm	0	0	Clear	
Los Angeles, California	29.54	750.3	29.89	759.2	39.0	3.9	77	NW	4	1.8		2c	0	W		0.09	2.3	Clear	
Louisville, Kentucky	29.30	744.2	29.86	758.4	40	4.4	73	E	1	0.4		5c	2s;8m	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.27	743.4	29.96	761.0	45	7.2	92	NE	3	1.3			10n		Calm	0.17	4.3	Light rain	
Madison, Wisconsin	28.79	731.3	29.79	756.7	33	0.6	70	N	16	7.2			10s		SW	0	0	Cloudy	
Marquette, Michigan	29.22	742.2	29.95	760.7	28	— 2.2	66	NW	8	3.6		5cs	0	NW		0.03	0.8	Fair	
Mason, Texas	28.14	714.7	29.90	759.4	46	7.8	62	NW	3	1.3		2cs	0	SW		0	0	Fair	
Memphis, Tennessee	29.51	749.5	29.85	758.2	45	7.2	67	SE	8	3.6		2c	0	Calm		0	0	Clear	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.04	737.6	29.78	756.4	36	2.2	90	N	19	8.5	.....	.....	10s	.....	N	0	0	Cloudy	
Mobile, Alabama	29.90	759.4	29.94	760.5	47	8.3	92	N	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.68	753.9	29.92	760.0	45	7.2	92	N	1	0.4	.....	0	9s	.....	N	0 58	14.7	Clearing	
Morgantown, West Virginia	28.94	735.1	29.93	760.2	45	7.2	84	NE	4	1.8	.....	.....	10n	.....	Calm	0.11	2.8	Light rain	
Mt. Washington, N. H	28.78	604.0	30.14	765.5	35	1.7	80	W	60	26.8	.....	10k	2s	Calm	W	0	0	Cloudy	
Nashville, Tennessee	29.32	744.7	29.86	758.4	45	7.2	84	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy	
New Haven, Connecticut	30.09	764.3	30.21	767.3	36	2.2	90	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.18	766.6	30.23	767.8	36	2.2	85	NE	4	1.8	.....	.....	9s	.....	E	0	0	Cloudy	
New Orleans, Louisiana	29.87	758.7	29.93	760.2	51	10.6	54	W	4	1.8	.....	0	Hz;smo	.....	Calm	0	0	Hazy	
Newport, Rhode Island	30.18	766.6	30.23	767.8	38	3.3	91	E	9	4.0	.....	5k	0	W	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New York, New York	29.97	761.2	30.15	765.8	40	4.4	91	NE	21	9.4	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Norfolk, Virginia	29.86	758.4	29.92	760.0	59	15.0	100	E	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
North Platte, Nebraska	26.92	683.8	29.62	752.3	18	— 7.8	84	NE	14	6.3	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Olympia, Washington Ter	29.67	753.6	29.71	754.6	29.0	— 1.7	100	Calm	0	0	.....	8k	0	SW	.....	0.18	4.6	Cloudy	
Omaha, Nebraska	28.57	725.7	29.70	754.4	26	— 3.3	88	N	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.72	754.9	30.04	763.0	42	5.6	74	SW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Pembina, Dakota	29.18	741.1	30.14	765.5	—16	—26.7	100	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	29.92	760.0	29.96	761.0	46	7.8	93	NW	5	2.2	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy	
Philadelphia, Pennsylvania	30.02	762.5	30.07	763.8	39	3.9	100	NE	16	7.2	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Phœnix, Arizona	28.72	729.5	30.53	775.4	50	10.0	58	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.13	435.1	29.34	745.2	—18	—25.0	74	SW	28	12.5	.....	0	0	.....	.....	0.53	13.5	Clear	
Pilot Point, Texas	28.98	736.1	29.81	757.2	48	8.9	42	S	12	5.4	.....	0	2s	.....	S	0	0	Fair	
Ploche, Nevada	23.55	598.2	29.32	744.7	14	—10.0	82	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.12	739.6	29.94	760.5	45	7.2	76	SE	2	0.9	.....	.....	10n	.....	Calm	0.50	12.7	Light rain	
Port Huron, Michigan	29.18	741.1	29.85	758.2	37	2.8	63	S	9	4.0	.....	10cs	0	W	.....	0	0	Cloudy	
Portland, Maine	30.21	767.3	30.27	768.8	35	1.7	70	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Portland, Oregon	29.76	756.4	29.77	756.1	33	0.6	95	S	3	1.3	.....	.....	10n	.....	S	0.18	4.6	Light snow	
Portsmouth, North Carolina	.....	.....	.....	.....	62	16.7	100	SE	10	4.5	.....	.....	10n	.....	SE	0.29	7.4	Heavy rain	
Prescott, Arizona	24.36	618.7	29 72	754.9	31	— 0.6	89	S	.....	.....	2	.....	10n	.....	Calm	0.01	0.3	Light snow	
Punta Rassa, Florida	29.82	757.4	29.84	757.9	66	18.9	74	W	18	8.0	.....	0	2ks	.....	W	1.42	36.1	Fair	
Red Bluff, California	29.50	749.3	29.87	758.7	35.5	0.8	89	Calm	0	0	.....	10k	0	NW	.....	0.02	0.5	Cloudy	
Rio Grande City, Texas	29.60	751.8	29.82	757.4	50	10.0	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.35	745.5	29.98	761.5	42	5.6	74	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.23	742.4	29.82	757.4	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy	
Sacramento, California	29.78	756.4	29.86	758.4	32	0.0	95	SE	8	3.6	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
St. Louis, Missouri	29.16	740.7	29.74	755.4	40	4.4	48	S	10	4.5	.....	2c	0	SW	.....	0	0	Fair	
St. Paul, Minnesota	29.10	739.1	29.96	761.0	24	— 4.4	61	N	10	4.5	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.33	643.4	29.66	753.4	11	—11.7	40	SE	4	1.8	.....	5c	0	W	.....	0	0	Fair	
San Antonio, Texas	29.12	739.6	29.72	754.9	45	7.2	100	NE	2	0.9	.....	Haze	Haze	.....	Calm	0	0	Hazy	
San Diego, California	29.89	759.2	29.96	761.0	50	10.0	58	W	18	8.0	.....	8k	0	NW	.....	0.11	2.8	Cloudy	
Sandusky, Ohio	29.21	741.9	29.89	759.2	46	4.4	56	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.09	764.3	30.12	765.0	42	5.6	91	E	24	10.7	.....	.....	10s	.....	E	0	0	Cloudy	
San Francisco, California	29.81	757.2	29.87	758.7	43	6.1	67	NW	5	2.2	.....	.....	10s	.....	NW	0.47	11.9	Cloudy	
Santa Fé, New Mexico	22.97	583.4	29.51	749.5	14	—10.0	46	NE	6	2.7	.....	0	8s	.....	NE	0	0	Cloudy	
Savannah, Georgia	29.60	751.8	29.69	754.1	57	13.9	94	NW	5	2.2	.....	.....	Fog	.....	Calm	2.15	54.6	Foggy	
Shreveport, Louisiana	29.61	752.1	29.83	757.7	43	6.1	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.75	755.6	29.78	756.4	62	16.7	100	N	18	8.0	.....	.....	10s	.....	Calm	2.70	68.6	Cloudy	
Socorro, New Mexico	25.08	637.0	29.14	740.1	35	1.7	45	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.08	738.6	29.75	755.6	40	4.4	56	SE	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Springfield, Massachusetts	30.11	764.8	30.25	768.3	34	1.1	79	NE	3	1.3	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	
Stockton, Texas	26.78	680.2	29.78	756.4	48	8.9	36	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.24	768.1	30.29	769.4	40	4.4	91	SE	5	2.2	.....	10k	0	SE	.....	0	0	Cloudy	
Toledo, Ohio	29.15	740.4	29.84	757.9	39	3.9	64	SE	6	2.7	.....	2c	0	SW	.....	0	0	Clear	
Tucson, Arizona	27.36	694.9	29 91	759.7	44	6.7	51	SW	5	2.2	.....	1k	0	SW	.....	0	0	Clear	
Umatilla, Oregon	29.38	746 2	29.89	759.2	26.0	— 3.3	88	SW	16	7.2	.....	0	2s	.....	W	0	0	Fair	
Uvalde, Texas	29.80	734.0	29.78	755.1	46	7.8	84	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.65	753.1	29.91	759.7	42	5.6	66	SE	9	4.0	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.89	606.8	29.37	746.0	— 4	—20.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.50	749.3	29.88	758.9	35.5	1.9	95	NW	3	1.3	.....	.....	10s	.....	Calm	0 05	1.3	Cloudy	
Washington, D. C	29.86	758.4	29.98	761.5	45	7.2	100	NE	2	0.9	.....	.....	10n	.....	Calm	0.35	8.9	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	93	0.6	70	SW	.....	.....	1	0	2ks	.....	SW	0	0	Fair	
Wilmington, North Carolina	29.69	754.1	29.77	756.1	63	17.2	94	E	10	4.5	.....	.....	10n	.....	Calm	2.35	59.7	Light rain	
Winnemucca, Nevada	25.29	642.4	29.65	753.1	10	— 7.2	92	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Light fog	
Wood's Holl, Massachusetts	30.20	767.1	30.24	768.1	57	13.9	84	SE	16	7.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.66	728.0	30.04	763.0	18	— 7.8	84	NE	12	5.4	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Yuma, Arizona	29.70	754.4	29.85	758.2	44	6.7	68	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.85	758.2	29.90	759.4	72	22.2	71	Calm	0	0	.....	.....	8n	.....	NW	0.93	23.6	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.16	766.1	30.17	766.3	74	23.3	82	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Fair	James Gall.
Nassau, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.91	759.7	29.99	761.7	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.94	760.5	29.94	760.5	80	26.7	87	E	.....	.....	2	6k	8ks	E	.....	0	0	Cloudy	Francesco J. Cisneros.
Santiago de Cuba, W. I	29.38	746.2	29.94	760.5	77	25.0	94	N	.....	.....	2	.....	10s	.....	.....	0.02	0.5	.....	Robert Mason.
St. Thomas, W. I	29.97	761.2	30.00	762.0	74	23.3	81	Calm	0	0	.....	0	8n	.....	S	0	0	.....	G. O. Gellich.
York Factory, B. A	29.81	757.2	29.87	758.7	—17.0	—27.2	100	SE	18	8.0	.....	.....	10n	.....	NE	0.35	8.9	Snow drift.	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Cheyenne, 6,017.3 ft., or 1,834.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.86 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	29.94‡	760.5‡	.....	.....	50	10.0	86	NNE	5	2.2	.....	.....	10	.....	NNE	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.20‡	767.1‡	.....	.....	27	— 2.8	100	WNW	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Alaska, Coquimbo, Chili	29.90‡	759.4‡	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Colorado, New York, N. Y	30.06‡	763.5‡	.....	.....	40	4.4	100	NE	5	2.2	.....	.....	10	.....	ENE	0	0	.....	.....	Misty	
Constitution, N. 16° 42′, W. 67° 04′	29.98‡	761.5‡	.....	.....	77	25.0	77	E	.....	.....	4	.....	2	.....	E	.....	.....	Smooth	E	Clear	
Enterprise. Smyrna, Turkey	30.45‡	773.4‡	.....	.....	41	5.0	65	ENE	.....	.....	4	.....	4	.....	ENE	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va	29.94‡	760.5‡	.....	.....	62	16.7	94	ESE	5	2.2	.....	.....	10	.....	ESE	0.07	1.8	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal	29.89‡	759.2‡	.....	.....	42	5.6	66	WNW	1.2	0.5	.....	.....	10	.....	WNW	0.037	0.94	.....	.....	Cloudy	
Kearsarge, Key West, Fla	29.91‡	759.7‡	.....	.....	71	21.7	75	WNW	.....	.....	3–4	.....	5	.....	NW	.....	.....	Smooth	.....	Fair	
Lackawana, N. 34° 55′, W. 139° 00′	30.50‡	774.7‡	.....	.....	55	12.8	100	NW	.....	.....	3	.....	8	.....	NW	.....	.....	Long	NW	Fair	
Marion, S. 15° 35′, W. 36° 55′	29.96‡	761.0‡	.....	.....	83	28.3	71	ENE	.....	.....	3	.....	5	.....	E	Light	Light	Smooth	E	Fair	
Michigan, Erie, Pa	29.88‡	758.9‡	.....	.....	42	5.6	74	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.52‡	775.2‡	.....	.....	32	0.0	79	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C	29.71‡	754.6‡	.....	.....	59	15.0	100	NE	8	3.6	..	.....	0	.....	.....	0.72	18.3	.....	.....	Foggy	
Nipsic, La Guayra, Venezuela, S. A	29.96‡	761.0‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Light	ENE	D. clouds	
Onward, Callao, Peru	29.89‡	759.2‡	.....	.....	73.5	23.1	76	SE	.....	.....	3	.....	5	.....	.....	.....	.....	Mod'ate smooth	W	Fair	
Palos, Tientsin, China	30.34‡	770.6‡	.....	.....	26	— 3.3	100	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C	29.99‡	761.7‡	.....	.....	45	7.2	84	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	70	21.1	85	SE	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	D. clouds	
Powhatan, Off Ellis I'd., N. Y. Harbor	30.15‡	765.8‡	.....	.....	44	6.7	84	ENE	.....	.....	3	.....	10	.....	.....	Mod'ate	Mod'ate	.....	.....	Rainy	
Quinnebaug, Leghorn, Italy	30.22‡	767.6‡	.....	.....	54	12.2	55	E	.....	.....	4	.....	2	.....	E	.....	.....	.....	.....	Clear	
Ranger. N. 35° 50′, W. 144° 55′	30.55‡	776.0‡	.....	.....	56	13.3	81	ENE	.....	.....	1	.....	10	.....	Calm	.....	.....	Long	E	Cloudy	
Richmond, Hong-Kong, China	30.37‡	771.4‡	.....	.....	54	12.2	74	N	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	30.02‡	762.5‡	.....	.....	59	15.0	100	SE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	29.99‡	761.7‡	.....	.....	48	8.9	100	ENE	.....	.....	1	.....	10	.....	.....	0.17	4.3	.....	.....	Foggy	
Shenandoah, Montevideo, Uruguay	29.72‡	754.9‡	.....	.....	67	19.4	64	NNW	.....	.....	3	.....	0	.....	.....	.....	.....	Mod'ate	NNW	Clear	
St. Louis, League Island, Pa	30.05‡	763.3‡	.....	.....	46	7.8	84	NE	9	4.0	.....	.....	10	.....	NE	0.08	2.0	.....	.....	Drizzling	
Swatara, N. 41° 05′, W. 54° 09′	30.32‡	770.1‡	.....	.....	48	8.9	78	N	.....	.....	5	.....	10	.....	N	.....	.....	Smooth	N	Cloudy	
Tennessee, Norfolk, Va	30.05‡	763.3‡	.....	.....	60	15.6	100	E	4	1.8	.....	.....	10	.....	Calm	0.03	0.8	.....	.....	Foggy	
Trenton, Port Mahon, Minorca, Med	30.07‡	763.8‡	.....	.....	60	15.6	65	E	.....	.....	4	.....	10	.....	E	Blank	Blank	.....	.....	Cloudy	
Tuscarora, La Union, S. Salvador	29.96‡	761.0‡	.....	.....	77	25.0	82	W	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Wabash, Boston, Mass	30.21‡	767.3‡	.....	.....	35	1.7	90	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....	Hazy	
Wyoming, Villafranca, France	30.18‡	766.6‡	.....	.....	62	16.7	46	SSE	.....	.....	0–1	.....	2	.....	S	.....	.....	Smooth	S	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7.35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian, N. 41° 02′, W. 67° 21′		30.15‡	765.8‡	44	6.7	??	SE			3		2		E		Smooth		Fine	R. Carruthers.
S. S. Hibernian, F. Archer,																			John France.
S. S. Moravian, J. Grahani.																			A. Christie & F. W. Erskine
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			
S. S. Sarmatian, A. D. Air, N. 51° 49′, W. 30° 50′		29.76‡	755.9‡	43	6.1		W			3		8?		W		Cross	W; NW	Clear?	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Philadelphia, Pa		30.31‡	769.9‡	41	5.0		ENE			4		9		ENE		Mod'ate		Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 49° 26′, W. 14° 32′		30.19‡	766.8‡				SSW			5		8		S	0	Mod'ate	SSW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer, N. 31° 25′, W. 69° 30′		30.09‡	764.3‡				S			3		5		SW		Long	NE	Cloudy?	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 21′, W. 173° 13′	†	30.01‡	762.2‡	69	20.6	84	N			4		2		N		Mod'ate	N	Clear	D. A. Joyce.
S. S. Gaelic, Davidson, N. 36° 49′, E. 146° 11′	†	30.05‡	763.3‡	44	6.7		Var.			3	clr		NW			Rough	NW	Hailing	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd.		29.66‡	753 4‡	28	— 2.2		W.			1		10		W				Snowing	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China		30.25‡	768.3‡	59	15.0	70	NW			2		8		NE	0	Smooth		Overcast	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 33° 47′, W. 134° 51′		30 43‡	772.9‡				NNW			5				N		Mod'ate	N	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson N. 44° 13′, W. 51° 58′	30.12‡	765.01	32	0.0		W	30	13.4			10		W	0	Mod'ate	W	Cloudy	
S. S. Nederland, S. Stokes. N. 49° 39′, W. 15° 52′	29.98‡	761.5‡	53	11.7		SW			5		8		SW	Slight	High	WNW	Fine	J. Farmer & W. Apetan.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																		J. W. Jennings.
S. S. Britanic, H. Perry, N. 51° 30′, W. 10° 17′	30.16‡	766.1‡	49	9.4		SW			6		10		WSW	0	Mod'ate	SW	Overcast	J. Jones.
S. S. Celtic, B. Gleadell																		
S. S. Republic, P. J. Irving																		G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																		Mchaffey.
Schr. Addie Fuller, J. Jorgensen																		J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																		L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 4° 0′, E. 29° 50′	29.81‡	757.2‡	60.5	15.8		WSW			5		5		WSW		Rough	WSW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.†	30.15‡	765 8‡	75	23.9		ENE			5		2		NE		Smooth		Clear	
Iron Cross, W. Randall, N. 52° 30′, W. 5°30′	30 26‡	768.6‡	44	6.7	92	S			5		7		SSE	0	Slight	SSE	Misty	W. Randall.
Barque Syringa, E. Lewis																		E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Treamont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 28, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.08	763.9				NE			2		2			0	0	Fair	
Nemours			30.03	762.8	53.2	11.8	90	WNW			3		10			0.461	11.7	Covered	Kesxuche.
Algiers			29.93	760.2	58.3	14.6	69	NW			2		3			Inap.	Inap.	Pretty fair	Tourillere.
La Calle			29.98	761.4	61.9	16.6	64	S			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			29.97	761.3															Herbin.
Tebessa			29.87	758.8															Watrin.
Geriville			29.99	761.8	47.8	8.8	71	SSE			2		9			0	0	Covered	Brugniaux.
Laghouat								SE			2		9			0.118	3.0	Covered	Bertrand.
Biskra			29.95	760.8	44.2	6.8	56	ENE			6		10			0	0	Covered	Chanvaux.
			29.89	759.3	59.4	15.2	70	E			1		9			0	0	Covered	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.02	762.4	30.61	777.5	27.1	— 2.7	85	S			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.82	757.3	30.65	778.5	20.5	— 6.4	79	SSE	0	0			0			0	0		Dr. Wierzbicki.
Eperies	29.69	754.1	30.67	779.1	12.9	-10.6	80	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.26	743.3	30.61	777.6	25.2	— 3.8	70	S			2		0			0.146	3.7		Andreas Rospini.
Hermannstadt	29.16	740.7	30.76	781.4	13.3	—10.4	93	NNW			1		0			0	0		Prof. A. Gottschling
Kremsmünster	29.00	736.6	30.45	773.5	23.0	— 5.0	93	Calm			0		0			0	0		Prof. C. Wagner.
Lemberg	29.61	749.5	30.58	776 6	29.6	— 3.0	98	S			1		1			0	0		Dr. T. Stanecki.
Pola	30.37	771.4	30.49	774.4	41.0	5.0	97	NW			1		Fog			0.236	6.0	Raining	I.R.Hydrographic Office
Szathmar	30.21	767.3	30.72	780.3	19.0	— 7.2	78	NE			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.35	771.0	30.66	778.7	27.3	— 2.6	70	Calm			0		9			0	0		Karl Stancel.
Trieste	30.40	772.1	30.50	774.7	45.7	6.5	77	Calm			0		10			Inap.	Inap.	Rain & fog.	P. Busin.
Vienna	29.78	756.4	30.53	775.4	25.9	— 3.4	82	SE			3		10			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.13	765.2	30.34	770.6	32.2	0.1	73	E			1		0			0	0		Royal Observatory.
Furnes	30.32	770.1	30.34	770.7	32.9	0.5	70	S			2		0			0	0		M. E. de Cae.
Maeseyck	30.24	768.2	30.37	771.4	27.1	— 2.7	77	N			2		0			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:8 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:8 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.87	758.7	42.0	5.6		S	24	10.7			10			Blank	Blank	Squally	W. Boswell.
Ardrossan	29.95	760.7	29.96	761.0	45	7.2		SSW			6		3					D. clouds	G. Carrick.
Armagh, (Observatory)	29.72	754.9	29.97	761.2	44.6	6.9		S	26	11.6			8					Squally	S. Call.
Bidston (Liverpool Obs)			30.20	767.1	36.3	2.4		SE	12	5.4			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.65	753.1	30.18	766.6	33.7	0.9		S					0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.79	756.7	30.18	766.6	36.5	2.5	74	W			2		2			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.92	760.0	29.96	761.0	79	26.1		NE			1		2					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge (Observatory)	30.21	767.3	30.32	770.1	24.1	— 4.4		S			1		10					Misty	H. Todd.
Cardington			30.28	769.1	24.4	— 4.2		S			0–1		7					Foggy	John McLaren.
Chatham (School M. E.)	30.18	766.6	30.32	770.1	26.2	— 3.2		E			0		0					Foggy	W. Gibson, Sapper, R.E.
Donaghadee	29.95	760.7	30.00	762.0	46	7.8		SSW			5		5					D. clouds	J. Mac Gowan.
Dover	30.28	769.1	30.31	769.9	33	0.6		ESE			2		0					Misty	J. Costello.
Falmouth (Observatory)	30.03	762.7	30.26	768.6	44.6	6.7		SE			3		1					D. clouds	The Staff.
Fort Napier, Natal	27.60	701.0	29.82	757.4	68.2	20.3		E			2		10					Overcast	Corp'l H. Coombs, A.H.C.
Free Town, Sierra Leone																			
Galway (Queen's College)			29.87	758.7	47	8.3		S			4		10			0.08	2.0	Raining	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.74	755.4	29.95	760.7	44.8	7.1		SSW			7		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.30	769.6	30.31	769.9	28	— 2.2		SW			2		4					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.14	765.5	30.32	770.1	27.1	— 2.7		W			1		0					Blue sky	The Staff, for G.B. Airy.
Guernsey	30.05	763.3	30.28	769.1	40.6	4.7		ESE			1		0					Blue sky	Dr. S.E Hoskins, F.R.S.
Helston	30.34	770.6	30.45	773.4	44	6.7		SE			1	1c				0	0	Very fine	M. P. Moyle.
Holyhead	30.08	764.0	30.15	765.8	42	5.6		SSW			5		10					Overcast	John Tilston.
Jersey	30.01	762.2	30.31	769.9	36.2	2.3		SSE			2		10					Misty	J. Fisher.
Kew (Observatory)	30.29	769.4	30.32	770.1	24.6	— 4.1		NNW	1	0.4			Fog					Foggy	The Met'g'l Office.
Leicester (Museum)	30.27	768.8	30.55	776.0	29.9	— 1.2		SW			1		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	30.05	763.3	30.12	765.0	59	15.0		SE			5		9n					Showery	A. King.
Nairn	29.63	752.6	29.72	754.9	48	8.9		SW			2		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.00	762.0	70.5	21.4		W			1		8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.07	763.8	30.28	769.1	26.7	— 2.9		Calm			0		5s		SSW	0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29 71	754.6	30.26	768.6	30.9	— 0.6		SSE			2		6					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.08	764.0	30.33	770.4	22	— 5.6		NW			1		5					Misty	H. E. Bellamy.
Plymouth	30.19	766 8	30.27	768.8	39.8	4.3		E			1		0					Misty	John Merrifield.
*Roche's Point	30.02	762.5	30.10	764.5	40	9.4		SSW			6		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.03	762.7	30.20	767.1	42	5.6		SSE			4		6					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.60	751.8	47	8.3		S	28	12.5			10					Overcast	Rev. C. Clouston, L.L.D.
Scutari Cemetery, Turkey	30.60	777.2	30.67	779.0	37.0	2.8		E			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.96	761.0	30.25	768.3	41.0	5.6		SW			2		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.05	763.3	30.08	764.0	41.9	5.5	75	SW			5		0			0	0	Blue sky	Rev. F. Redford, A.M.
Stonyhurst (Observatory)			30.18	766.6	35.5	1.9		S	13	5.8			0					Misty	Rev. S. J. Perry.
Stratfield, Turgiss					24.1	— 4.4							10					Foggy	Rev. C.H. Griffith, F.M.S.
Truro (Royal Institution)	30.16	766.1	30.25	768.3	48	8.9		SE			4		0					Blue sky	W. Newcombe.
Valencia (Observatory)	29.93	760.2	29.96	761 0	49.3	9.6		S	43	19.2			10					Gloomy	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.02	762.5	30.06	763.5	74.5	23.6	84	S	21.2	9.5		0	6cs			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.74	679.2			74	23.3		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			C. Meldrum.
Mauritius (Observatory)	29.89	756.9	29.99	761.8	81.3	27.4	62	E	23.0	10.3		0	3		E	0.02	0.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.02	762.5	30.11	764.8	72.8	22.7	62	SW	6	2.7			3			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.47	748.5	48	8.9		SSW			8		10			0.7	18.		
North Unst, Shetland Is			29.47	748.5				S			7		10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points of the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Fortescue Bay, Patagonia			29.19‡	741 4‡	45	7.2		WNW			3		9					Showery	Capt. A. J. Brown.
City of Agra, S. 56° 01′, W. 74° 51′			29.19‡	741.4‡	44.6	6.9		SSE			4		6					D. clouds	Capt. Thos. Young.
City of Cashmere, S. 40° 33′, W. 35° 00′			29.64‡	752.8‡	64.6	18.1		NNW			8		10					Overcast	Capt. W. M. Grieve.
Barque Commewyne, N. 45° 00′, W. 21° 35′			29.71‡	754.6‡	57.7	14.3		SSW			6		10					Drizzling	Capt. Jas. Buchan.
Barque Fedalma, N. 49° 45′, W. 6° 50′			30.18	766.6	55	12.8		SSE			4		0			2	Confused	Blue sky	Capt. H. L. Fox.
Bqte Fylde, N. 42° 10′, W. 34° 45′			29.92	760.0	54	12.2		NNW			6		6			8	WNW	Squally	Capt. L. C. Dart.
S. S. German, Kowie, Cape Colony			30.00‡	762.0‡	66	18.9		SSW			2		4					D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 13′, W. 76° 08′			30.04	763.0	76	24.4		WNW			1		2					Blue sky	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 4° 46′ E. 85° 40′			29.90‡	759.4‡	82.2	27.9		NW			3		6					D. clouds	Capt. W. P. Hughes.
S. S Strathleven, N 42° 20′, W. 9° 25′			30.07‡	763.8‡	52.5	11.4		E			2		2					Blue sky	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	61.2	16.2	89	NE	.....	.....	2	.....	1d	.....	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.31	769.9	30.36	771.1	30.6	— 0.8	83	SSW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Faude	30.31	769.8	30.33	770.3	32.5	0.3	89	S	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.40	746.8	29.45	747.9	-- 0.4	—18.0	89	ENE	.....	.....	3	.....	7	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.77	730.7	28.81	731.8	21.2	— 6.0	95	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	.....
Thorshavn (Faröe)	28.87	733.2	28.90	734.1	48.6	9.2	91	SSW	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	.....
Vestervig	30.13	765.3	30.24	768.1	35.1	1.7	96	S	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.76	755.8	30.30	769.7	31.1	— 0.5	45	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Engin'r School	30.21	767.4	30.33	770.4	.....	.....	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Vaillant, Director.
Arras, Normal School	30.06	763.5	30.34	770.5	26.1	— 3.3	71	SE	.....	.....	3	.....	.....	.....	.....	0	0	.....	Klein, Commandan
Avignon, Normal School	30.23	767.7	30.30	769.7	41.0	5	39	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.73	755.2	30.37	771.5	23.4	— 4.8	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.04	763.0	30.33	770.3	24.3	— 4.3	81	E	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.45	748.1	30.43	772.8	21.9	— 5.6	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.01	762.3	30.21	767.3	46.6	8.1	61	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.47	748.5	30.38	771.7	24.4	— 4.2	95	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.72	754.9	30.31	769.8	32.0	0	87	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.02	762.6	30.27	768.8	48.2	9.0	73	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.24	768.2	30.33	770.3	34.7	1.5	78	.....	.....	.....	.....	.....	0	.....	.....	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	29.78	756.4	30.20	767.1	49.6	9.8	35	E	.....	.....	2	.....	10	E	E	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	30.00	762.0	30.34	770.6	27.5	— 2.8	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	Jadot, Director
Chartres, Normal School	29.67	753.7	30.28	769.0	31.8	— 0.1	78	NE	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.86	732.7	30.23	767.9	47.1	8.4	34	E	.....	.....	1	.....	0	.....	.....	0	0	Light mist	Alluard, Director.
Commercy, Normal School	29.43	747.6	30.37	771.5	16.7	— 8.5	.....	E	.....	.....	1	.....	1	.....	E	0	0	Clear.	Dr. Coullet, Director.
Commune de Grénasque*	29.15	740.5	30.30	769.5	49.5	9.7	62	SE	.....	.....	3	.....	8	.....	SE	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.57	751.1	30.40	772.1	25.5	— 3.6	.....	E	.....	.....	1	c	.....	NE	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.08	764.0	30.30	769.7	36.7	2.6	80	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.98	761.5	30.31	769.8	28.4	— 2	75	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.39	746.6	30.35	770.9	18.5	— 7.5	76	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.20	767.0	30.31	769.8	38.8	3.8	80	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.71	754.7	30.38	771.6	25.2	— 3.8	73	ESE	.....	.....	1	.....	0	.....	.....	0	0	Hazy	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.95	760.8	30.23	767.7	54.9	12.7	58	E	.....	.....	1	.....	0	.....	ESE	.....	.....	Sprinkling	E. Stephan, Director.
Mirecourt, Normal School	29.30	744.1	30.46	773.6	11.5	—11.4	80	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	24.88	631.9	30.19	766.9	32.7	0.4	61	E	7.4	3.3	.....	.....	9	.....	N	0	0	.....	M. Cave, for Dr. Fines.
Nismes, Normal School	30.23	767.8	30.26	768.6	54.3	12.4	69	E	.....	.....	6	.....	10	E	E	.....	.....	Light rain	Capt. Boissière, Director.
Paris, Montsouris Obs'y	29.94	760.4	30.15	765.8	47.7	8.7	67	SE	.....	.....	1	.....	cn	.....	S	0	0	.....	M. Boyer, Director.
Perrignan	30.02	762.6	.....	.....	27.1	— 2.7	74	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Marié Davy, Director
Pic du Midi (Plantade) H. P.	30.15	765.7	30.26	768.6	44.4	6.9	46	E	1.8	0.8	.....	.....	10	.....	SE	0	0	.....	Dr. Fines.
Pic du Midi (Summit) H. P.	22.51	571.7	.....	.....	32.9	0.5	.....	.....	.....	.....	.....	.....	.....	.....	NE	0	0	.....	M. Baylac, for Gen'l de Nansouty
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puy de Dome (Summit) Obs	29.17	740.9	30.29	769.4	35.6	2	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.27	641.8	.....	.....	39.2	4.0	36	S	.....	.....	1	.....	2	.....	.....	0	0	¼ covered	Alluard, Director.
Rouen, Normal School	30.24	768.0	30.27	768.8	39.2	4.0	62	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.18	766.5	30.26	768.7	28.9	— 1.7	74	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Maur (near Paris)	30.25	768.3	30.28	769.1	29.8	— 1.2	96	S	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Lt. Hercouet, Director
Tarbes, Normal School	30.15	765.8	30.32	770.0	27.7	- 2.4	72	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Renou, Director.
Toulouse, Observatory	29.10	739.0	30.19	766.9	50.0	10.0	50	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Tours	29.52	749.9	30.25	768.4	43.3	6.3	67	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	B. Bailland, Dir.
Versailles, Observatory	30.07	763.6	30.26	768.6	29.5	— 1.4	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. de Tastes.
Villefranche-sur-Saone, N.S	29.80	756.8	30.24	768.2	28.4	— 2.0	67	E	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Fort de France, Martinique	29.68	751.3	30.33	770.4	30.2	— 1	82	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
Zi-Ka-Wei (near Shanghai)	29.98	761.6	30.01	762.3	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchési
.....	30.48	774.1	30.50	774.8	32.0	0.0	89	SE	6.9	3.1	.....	.....	0	.....	.....	0	0	Clear.	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Grénasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Grénasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.52	749.8	30.39	772.0	20.8	— 6.2	74	NW			4		4s			0	0		Prof. Dr. Hoh.
Berlin	30.30	769.5	30.48	774.2	30 2	— 1.0	63	SE			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.99	761.8	30.53	775.5	30.0	— 1.1	74	SSE			3		0			0	0		Royal University Obs'y
Carlsruhe	29.94	760.4	30.40	772.2	20.8	— 6.2	84	S			0		0			0	0		Albert Senz.
Cassel	29.80	757.0	30.42	772.6	13.3	—10.4	67	NE			2		0			0	0	Dense fog.	Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.12	765.1	30.51	775.0	24.3	— 4.3	50	NNE			1		1			0	0		Physical Society.
Friedrichshafen	28.91	734.3	30.47	773.9	18.5	— 7.5	86	SW			1		10			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.34	770.5	30.41	772.3	27.3	— 2.6	85	SE			2		0			0	0	Light fog.	Dr. Reinhold Kleeman.
Kiel	30.35	770.9	30.37	771.3	31.5	— 0.3	78	SSW			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.39	771.9	30.48	774.2	23.4	— 4.8	76	W			4		0			0	0		Prof. E. Luther.
Köslin			30.48	774.2	25.2	— 3.8		S			2		0			0	0		H. Müller.
Leipsic Observatory	30.04	762.9	30.49	774.4	25.2	— 3.8	78	SS			1		0			0	0	Hazy.	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.23	767.7	30.46	773.6	27.1	— 2.7	63	ESE			1		0			0	0	Light fog.	Dr. Assmann.
Memel	30.34	770.5	30.38	771.7	36.3	2.4	89	WSW			6		8k						Reinbrecht & Issermann
Munich (München)	28.49	723.7	30.38	771.6	16.3	— 8.7	84	N			3		0			0	0	Foggy	Dr. C. Lang.
Neufahrwasser	30.47	773.9	30.48	774.3	31.8	— 0.1	72	WSW			1		1			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.83	757.7	30.37	771.3	25.9	— 3.4		Calm			0					0	0		Reallehrer Dicknether.
Posen	30.24	768.1	30.56	776.1	23.5	— 4.7	77	SE			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.85	758.3	30.47	773.8	16.0	— 8.9	91	Calm			0		5			0	0		Imp. University Observatory.
Stuttgart	29.41	746.9	30.42	772.6	23.5	— 4.7	77	N					0			0	0		Prof. Dr. Schoder.
Thorn	30.41	772.4	30.60	777.3	26.2	— 3.2	76	S			2		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.85	732.7	30.44	773.2	22.6	— 5.2	81	W	0.4	0.2						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.41	772.3	30.43	772.9	29.3	— 1.5	88	SSE			3		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.21	767.2	30.61	777.4	44.6	7.0		NE			3.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.3	30.06	763.6	74.9	23.8	59	WSW	13	5.8		6	WSW	WSW		0	0	D. clouds	
Deesa	29.58	751.4	30.07	763.7	78.4	25.8	26	SSE	7.7	3.4		2	WNW			0	0	D. clouds	
Bombay	29.93	760.3	29.97	761.2	77.7	25.4	67	WNW	11	4.9		4	NW			0	0	D. clouds	
Poona (Yarrowda)	28.12	714.1	29.98	761.6	78.8	26.0	15	E	8	3.6		3	W			0	0	D. clouds	
Belgaum	27.41	696.2	29.96	760.9	76.1	24.5	22	ESE	6	2.7		1	SW			0	0	D. clouds	
Lahore	29.35	745.5	30.13	765.2	63.1	17.3	47	Calm	0.3	0.1		4				0	0	Blue sky	
Roorkee	29.18	741.2	30.11	764.8	66.8	19.3	50	W	1.0	0.4		4				0	0	D. clouds	
Agra	29.53	750.0	30.11	764.9	67.8	19.9	56	Calm	1.5	0.7		0				0	0		
Nagpur	28.97	735.8	30.03	762.7	74.5	23.6	43	Calm	1.6	0.7		4	S			0	0	D. clouds	
Jubbulpore	28.66	728.0	30.07	763.8	65.6	18.7	38	N	0.8	0.4		6				0	0	D. clouds	
Lucknow	29.72	755.0	30.11	764.9	68.3	20.2	41	Calm	0.3	0.1		0				0	0	Blue sky	
Allahabad	29.78	756.3	30.11	764.7	61.9	16.6	67	Calm	0.7	0.3		8				0	0	D. clouds	
Patna	29.91	759.8	30.10	764.4	69.9	21.1	59	Calm	0.4	0.2		4				0	0	D. clouds	
Hazaribagh	28.03	712.0	30.12	765.0	63.8	17.7	48	NW	3.4	1.5		0				0	0	Blue sky	
Cuttack	29.97	761.3	30.06	763.5	72.1	22.3	65	NE	0.8	0.4		1				0	0	Blue sky	
Calcutta (Alipore)	30.03	762.8	30.05	763.3	68.5	20.3	67	SW	4.0	1.8		0				0	0	Blue sky	
Goalpara	29.69	754.2	30.09	764.4	71.4	21.9	48	NE	4.2	1.9		0				0	0	Blue sky	
Chittagong	29.98	761.4	30.07	763.7	76.6	24.8	40	Calm	3.2	1.4		1				0	0		
Sibsagar	29.77	756.2	30.12	765.1	65.8	18.8	73	ENE	1.0	0.4		0				0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	30.08	763.9	30.51	775.0	36.9	2.7	86	Calm	0	0			10			0.047	1.2		Prof. Giovanni Clodig.
Milan	29.97	761.3	30.53	775 5	31.3	— 0.4	96	W					8			0	0		Prof. Schiaparelli.
Padua	30.43	772.9	30.55	775.9	34.9	1 6	84	NW	4.9	2.2			10			0.024	0.6		Prof. Dott. Lorenzoni.
Moncalieri	29.58	751.3	30.53	775.4	29.5	— 1.4	84	N	0.7	0.3			10			0	0		Prof. P. F. Denza.
Genoa	30.21	767.3	30.41	772.4	37.4	3.0	70	NE	13.7	6.1			10	NE		0.071	1.8		Prof. G. M. Garibaldi.
Mondovi	28.51	724.2	30 54	775 6	34.3	1.3	53	W			2		10			0.591	15.0		Prof. D. C. Bruno.
Pesaro	30.46	773.8	30.52	775 2	35.2	1.8	74	NW	15.4	6.9			10			0	0		Prof. Luigi Guidi.
Florence	30.15	765.8	30.43	772.8	44.6	7.0	78	NE			2		10			0.008	0.2		Cav. F. Meucci.
Leghorn	30.26	768.7	30.35	771.0	43.9	6.6	84	NE	13.7	6.1			10			0.110	2.8		Prof. P. Monte.
Rome	30.14	765.6	30.32	770.2	55.4	13.0	54	E	16.1	7.2			10			0.059	1.5		Prof. P. S. Ferrari
Lecce	30.20	767.0	30.46	773.7	54.7	12.6	68	ESE	6.9	2.8			4			0	0		Prof. C. De Giorgi
Cosenza	29.47	748.4	30.47	774.0	48.9	9.4	71	SE	0	0			8			0.469	11.9		Prof. D. Conti.
Cagliari	29.87	758.8	30.07	763.7	65.8	18.8	81	SE			2		10	SSE		0.185	4.7		Prof. A. Pacinotti.
Palermo	29.93	760.8	30.21	767.3	61.5	16.4	54	SSE	15.0	6.7			4	SSE		0	0		Prof. G. Ciacciatore.
Syracuse	30.24	768.0	30.28	769 1	56.3	13.5	81	ESE	26.2	11.7			9	ESE		0.067	1.7		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.79	756.6	30.32	770.1	55.9	13.3	72	NE	1.8	0.8			4			0.421	10.7		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.42	772.6	30.44	773.2	31.5	— 0.3	75	NE	5.4	2.4			0			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.27	768.8	30.48	774.2	37.0	2.8	81	NNE	2.0	0.9			2ks;s			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.16	766.0	30.28	767.8	32.5	0.3	70	NNE	4.9	2.2			2ks;ck		WNW	0	0	Foggy	The Staff.
Wakayama	30.31	769.9	30.37	771.4	38.6	3.7	66	NW	2.4	1.1		0	0			0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.03	635.8	30.32	770.2	33.8	1.0	46	Calm			0	0	0			0	0	Fine	Prof. L. Perez.
Leon	24.44	620.7	30.32	770.0	44.8	7.1	78	NW			1	0	0			0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.74	755.3	30.00	762.0	60.1	15.6	84	Calm			0	6cs	0	Calm		0	0	Fair	F. Quijano, C. E.
Mexico, Central Observatory	23.06	585.6	30.28	769.3	40.1	4.5	48	Calm	0	0		0	0			0	0	Fine	The Staff
Morelia	23.99	609.4			52.7	11.5	59	E			6	2k	0	S		0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23 90	607.0	30.05	763.2	40.6	4.8	51	Calm			0	0	0			0	0		M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.35	593.1	30.35	771.0	37.4	3.0	40	Calm	0	0		0	0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.10	612.1	30.29	769.4	40.3	4.6	95	SW			1	0	0			0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.91	759.7	29.92	760.0	64.6	18.1	93	Calm			0	0	0			0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	29.89	759.2	29.92	759.9	66.2	19.0	81	Calm	0	0		3s	0			0	0	Clear	Prof. J. Rossell
Zacatecas	22.52	572.0	30.17	766.3	46.0	7.8	54	Calm			0	0	0			0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.1 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.35	770.9	30.35	770.9	33.4	0.8		SSW			2					0	0		
Groningen	30.30	769.7	30.36	771 1	32.5	0.3		S								0	0		
Helder	30.33	770.3	30.33	770.3	30.2	— 1.0		SE			0					0	0		
Hellevoetsluis	30.35	770.9	30.35	770.9	33.6	0.9	85	SW			0								
Utrecht	30.32	770.1	30.37	771.3	27.5	— 2.5	74	SE			2		0			0	0	Clear	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.92	760.0	29.98	761.4	40.3	4.6	94	S	36.2	16.2	.....	.....	10	.....	.....	0.126	3.2	Raining	
Brönö	29.63	752.7	29.67	753.7	38.8	3.8	83	SW	18	8	.....	.....	9	.....	.....	0.236	6.0	.....	
Christiana	29.90	759.5	30.06	763.4	36.0	2.2	82	SW	0	0	.....	10	.....	.....	.....	0	0	.....	
Tromsö	29.28	743.7	29.32	744.8	33.8	1.0	87	SW	29	13	.....	10	.....	.....	.....	0.244	6.2	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.7	30 11	764.7	50.4	10.2	72	ENE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.06	763.4	30.14	765.6	64.4	18.0	41	S	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.76	755.9	30.09	764.2	51.3	10.7	63	NNE	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.89	759.3	29.97	761.1	59.7	15.4	89	SW	34.9	15.6	.....	.....	10	.....	.....	0.209	5.3	Raining	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. ... e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Bulama Bissago Islands., Africa.	.....	.....	.....	.....	81.7	27.6	.....	SE	.....	.....	1	.....	4	.....	SE	1	.....	D. clouds.....	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Benguela, Benguela	.....	.....	29.84	758.0	79.2	26.2	.....	WNW	.....	.....	4	.....	2	.....	WNW	1	WNW	D. clouds....	F. de Assis Castillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.32	770.2	57.7	14.3	.....	N	.....	.....	1	.....	0	.....	.....	0	.....	Blue sky.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.64	752.9	29.66	753.4	23.4	— 4.8	98	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.61	777.4	30.52	775.3	— 7.1	—21.7	78	W	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.81	757.1	30.36	771.2	— 4.5	—20.3	93	N	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.85	758.3	30.11	764.8	29.8	— 1.2	92	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.04	737.5	30.13	765.3	—11.2	—24.0	81	Calm	0	0	.....	.....	1cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.01	762.3	30.32	770.2	—13.0	—25.0	90	SSW	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.75	755.6	30.43	773.	24.1	— 4.4	68	W	4	2	.....	c	4cks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.84	757.9	30.37	771.5	— 7.4	—21.9	59	WNW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.25	768.4	30.48	774.1	11.3	—11.5	71	SE	2	1	.....	.....	0	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.60	751.9	30.19	766.8	22.3	— 5.4	78	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.24	717.2	31.02	788.0	—33.2	—36.2	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.58	776.8	30.65	778.6	23.0	— 5.0	66	W	9	4	.....	.....	10cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.11	764.7	30.36	771.2	14.7	— 9.6	78	WNW	7	3	.....	.....	3ks	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.37	771.5	30.52	775.1	20.1	— 6.6	70	SE	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.91	759.7	29.93	760.1	31.8	— 0.1	90	W	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.64	727.4	30.31	769.8	30.9	— 0.6	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.93	734.7	30.44	773.2	28.6	— 1.9	42	NW	18	8	.....	4c	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.13	765.2	30.58	776.8	24.6	— 4.1	70	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.98	761.4	30.43	772.9	25.5	— 3.6	91	W	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	30.16	766.1	30.50	774.6	—12.1	—24.5	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.05	763.2	30.16	766.0	53.6	12	59	ENE	12.3	5.50	.....	.....	6	.....	.....	0	0	½ covered....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.13	765.4	30.19	766.9	53.6	12.0	64	SE	2.0	0.90	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.5	.....	.....	41.9	5.5	61	NE	1.5	0.68	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.89	708.3	30.17	766.3	46.6	8.1	68	N	8.9	4.00	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	29.84	757.9	29.99	761.8	53.1	11.7	76	NE	4.3	1.94	.....	5	5	SSW	.....	0.019	0.19	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.6	30.10	764.8	54.5	12.5	65	N	0	0	.....	.....	0	.....	.....	0 •	0	Clear.	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.8	30.06	763.5	61.6	16.4	84	WSW	1.1	0.5	.....	0	0	.....	.....	0.020	0.5	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	30.04	762.9	30.09	764.2	80.6	27.0	75	NE	5.0	2.2	.....	.....	7ck	.....	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.8	30.09	764.3	57.7	14.3	64	E	3.7	1.7	.....	2	6	S	ENE	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	70.2	21.2	97	SE	0	0	.....	4kn	3kn	E	SE	0	0	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751.2	29.61	752.2	32.0	0.0	.....	W	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.73	755.2	29.78	756.5	32.7	0.4	92	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Hernosand	29.82	757.4	29.87	758.7	40.6	4.8	56	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Stockholm	29.92	759.9	30.10	764.4	36.0	2.2	79	WNW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Wisby	30.12	765.1	30.18	766.6	36.3	2.4	57	WSW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.94	760.5	30.03	762.7	36.5	2.5	79	WSW	17.0	7.6	.....	.....	6	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 10° 36', W. 77° 53'....	.....	.....	29.94‡	760.4‡	79.2	26.2	.....	NE	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds....	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.92	734.6	30.45	773.4	21.6 — 5.8		100	NNE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.71	729.1	30.48	774.3	15.8 — 9.0		75	S	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +7.3 mm.; Thermometer, —7.8 Cent. Relative Humidity, +23 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.71	780.1	36.1	2.3	70	ESE	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf																			
Valona	.....	.....	30.45	772.8	55.2	12.9	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.26	768.7	52.9	11.6	51	N	.....	.....	5	.....	0	.....	.....	6	0	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.73	755.1	29.74	755.4	35.7	2.1	.....	SW	1	0.4	.....	.....	.....	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	29.62	752.3	29.69	754.1	34.7	1.5	95	S	1	0.4	.....	.....	Fog	.....	.....	0.08	2.0	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.66	753.4	29.70	754.4	37.6	3.1	98	SE	9	4.0	.....	.....	10n	.....	.....	0.48	10.9	Raining	H. J. Cundall, C. E.
Cornwall, Ontario	29.54	750.3	29.73	755.1	37.0	2.8	96	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.50	749.3	29.67	753.6	29.0 — 1.7		.....	W	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	33.7	0.9	100	SW	7.0	3.1	.....	.....	10n	.....	.....	.....	.....	Light rain	J. McWilliams.
Fredericton, N. B	29.62	752.3	29.69	754.1	36.0	2.2	94	N	3	1.3	.....	.....	Fog	.....	.....	0.47	11.9	Foggy	Prof. Harrison.
Fort Garry, Manitoba	29.72	754.9	30.71	780.0	—19.6	—28.7	100	W	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.90	734.0	30.05	763.3	29	— 1.7	.....	NW	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	29.65	753.1	29.78	756.4	41.1	5.1	99	S	4	1.8	.....	.....	Fog	.....	.....	0.99	25.1	Light rain	A. Allison.
Hamilton, Ontario	29.58	751.3	29.90	761.0	37.7	3.2	75	NW	.....	.....	4	.....	10ks	.....	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.47	748.5	29.81	757.2	35.1	1.7	95	SW	3	1.3	.....	.....	Fog	.....	.....	0.10	2.5	Foggy	S. Woods, M. A.
Little Glace Bay, N. S	29.92	760.0	29.96	761.0	36.2	1.8	97	S	12	5.4	.....	.....	10n	.....	.....	0.15	3.8	Raining	C. H. Rigby.
Montreal, Quebec	29.52	749.8	29.73	755.1	37.7	3.2	94	SW	16	7.2	.....	.....	10s	.....	.....	0.12	3.0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.09	764.3	30.13	765.3	—13.7	—25.4	74	W	.....	.....	4	0	2	.....	.....	0	0	Clear	J. R. Nesson.
Norwood	29.07	738.4	29.79	756.7	37.0	2.8	80	W	16	7.2	.....	.....	10s	.....	.....	0.90	22.9	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.19	741.4	29.92	760.0	28.5 — 1.9		88	W	25	11.2	.....	5k	5ks	NW	NW	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.84	757.9	37.7	3.2	81	W	.....	.....	5	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.27	743.4	29.98	761.5	36 0	2.2	80	NW	14	6.3	.....	10k	0	NW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.32	744.7	29.99	761.7	33.2	0.7	79	W	24	10.7	.....	.....	10ks	.....	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.38	746.2	29.70	754.4	35.0	1.7	100	W	.....	.....	3	.....	Fog	.....	.....	0.25	6.3	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario	29.25	742.9	29.73	755.1	21.4 — 5.9		84	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.53	750.0	29.70	754.4	39	3.9	100	S	4	1.8	.....	.....	Fog	.....	.....	0.47	11.9	Dense fog	G. Murdock, C. E.
Saugeen, Ontario	29.29	744.0	30.04	763.0	28.0 — 2.2		90	W	28	12.5	.....	.....	10n	.....	.....	0	0	Overcast	Miss K. Stewart.
Stratford, Ontario	28.70	729.0	30.05	763.3	28.5 — 1.9		93	NW	25.0	11.2	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.87	758.7	29.91	759.7	37.2	2.9	96	SE	10	4.5	.....	.....	10n	.....	.....	0.15	3.8	Raining	T. C. Hill, C. E.
Toronto, Ontario	29.53	750.0	29.92	760.0	37.6	3.1	76	NW	39	13.4	.....	.....	10ks	.....	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	29.62	752.3	29.72	754.9	41.0	5.0	91	S	8	3.6	.....	.....	10n	.....	.....	0.76	19.3	Raining	Prof. John E. Oram, M. A
Woodstock, Ontario	28.90	734.0	30.01	762.2	31.8 — 0.1		80	N	28	12.5	.....	.....	10ks	.....	.....	0	0	Cloudy	Professor Wolverton.
Yarmouth, N. S	29.69	754.1	29.76	755.9	45.6	7.6	98	SW	8	3.6	.....	.....	Fog	.....	.....	2.58	65.5	Light rain	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.92	760.0	30.10	766.8	24	— 4.4	74	SW	.....	.....	.....	10k	10s	.....	.....	Inap.	Inap.	Cloudy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.10	764.5	34.9	1.6	.....	SW	.....	.....	2	.....	n	.....	.....	0.39	9.9	Rain & fog	The Commandant

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.64	752.8	29.87	758.7	38	3.3	100	Calm	0	0	.....	.....	Fog	.....	.....	1.36	34.5	Dense fog....	
Alpena, Michigan	29.45	748.0	30.14	765 5	20	— 6.7	70	NW	25	11.2	.....	0	5s	.....	NW	0	0	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.88	733.5	30.04	763.0	47	8.3	85	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.95	760.7	29.96	761.0	52	11.1	100	SW	4	1.8	.....	8k	0	W	Calm	0.41	10.4	Fair...	
Augusta, Georgia	29.87	758.7	30.07	763.8	48	8.9	93	NW	4	1.8	.....	.....	Fog	.....	Calm	Inap.	Inap.	Dense fog....	
Baltimore, Maryland	29.96	761.0	30.01	762.2	49	9.4	93	NW	3	1.3	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy.....	
Barnegat, New Jersey	29.86	758.4	29.89	759.2	49	9.4	100	NW	7	3.1	.....	5k	5s;fog	W	W;Calm	0.41	10.4	Cloudy.....	
Bismarck, Dakota	28.69	728.7	30.54	775.7	—16	—26.7	100	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.46	722.9	29.75	755.6	60	15.6	94	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Boise City, Idaho	27.07	687.6	30.03	762.7	24	— 4.4	87	W	4	1.8	.....	0	5s	.....	W	0.03	0.8	Fair...	
Boston, Massachusetts	29.66	753.4	29.81	757.2	39	3.9	91	W	5	2.2	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy.....	
Brackettville, Texas	28.72	729.5	29.76	755.9	60	15.6	94	E	12	5.4	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy.....	
Breckenridge, Minnesota	29.62	752.3	30.84	783.3	—25	—31.7	100	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	29.35	745.2	29.90	759.4	67	19.4	89	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.16	740.7	29.86	758.4	41	5.0	82	W	15	6.7	.....	0	5s	.....	NW	0.03	0.8	Fair...	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29 18	748.8	29.78	756.4	41	5.0	91	S	3	1.3	.....	.....	Fog	.....	.....	0.67	17.0	Foggy.....	
Cairo, Illinois	29.80	756.9	30.21	767.3	41	5.0	74	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Campo, California	27.07	687 6	29.64	752.8	32	0.0	100	SW	17	7.6	.....	.....	10n	.....	Calm	1.74	44.2	Light snow..	
Cape Hatteras, N. Carolina	29.89	759.2	29.90	759.4	59	15.0	100	SE	6	2.7	.....	.....	Fog	.....	Calm	0.63	16.0	Dense fog....	
Cape Henry, Virginia	29.93	760.2	29.94	760.5	50	10.0	100	NW	9	4.0	.....	.....	Fog	.....	Calm	0.73	18.5	Foggy.....	
Cape Lookout, N. Carolina	29.90	759.4	29.92	760.0	58	14.4	100	NW	13	5.8	.....	.....	Fog	.....	NW	0.15	3.8	Dense fog....	
Cape May, New Jersey	29.90	759.4	29.93	760.2	48	8.9	100	NW	14	6.3	.....	.....	Fog	.....	.....	0.50	12.7	Foggy	
Castroville, Texas	29.12	739.6	29.82	757.4	62	16.7	94	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
Cedar Keys, Florida	30.05	763.3	30.08	764.0	54	12.2	93	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy.....	
Charleston, South Carolina	29.96	759.1	29.96	761.0	56	13.3	87	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Threatening	
Charlotte, North Carolina	29.14	740.1	29.97	761.2	52	11.1	100	N	2	0.9	.....	.....	Fog	.....	Calm	0.14	3.6	Foggy.....	
Chattanooga, Tennessee	29.27	743.7	30.11	764 8	39	3.9	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Cheyenne, Wyoming	23.91	607.3	29.85	758.2	8	—13.3	100	S	16	7.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow.	
Chicago, Illinois	29.52	749.8	30.25	768.3	28	— 2.2	77	NW	6	2.7	.....	2k	2s	N	Calm	0	0	Fair...	
Cincinnati, Ohio	29.47	748 5	30.13	765.3	45	7.2	61	N	9	4.0	.....	2cs	2s	W	Calm	0	0	Fair...	
Cleveland, Ohio	29.35	745.3	30.10	764.5	35	1.7	85	NW	14	6.3	.....	1ck;cs	2ks	W	NW	0	0	Fair..	
Coleman City, Texas	28.19	716.0	29.90	759.4	40	4.4	65	NW	14	6 3	.....	0	7s	.....	S	0	0	Fair...	
Columbus, Ohio	29.22	742.2	30.08	764.0	44	6.7	45	NW	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair...	
Concho, Texas	28.07	713.0	29.79	756.7	41	5.0	74	S	.....	.....	1	10k	0	Calm	.....	0	0	Cloudy.....	
Corsicana, Texas	29.44	747.8	29.91	759.7	56	13.3	87	S	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair...	
Davenport, Iowa	29.67	753.6	30.36	771.1	25	— 3.9	75	N	7	3.1	.....	Haze	5s	Calm	Calm	0	0	Fair...	
Dayton, Washington T'y	.....	.....	.....	.....	14	—10.0	82	E	.....	.....	1	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Deadwood, Dakota	25.42	645.7	.....	.....	10	—12.2	58	S	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Decatur, Texas	28.88	733.5	30.08	764.0	40	4.4	65	N	12	5.4	.....	8cs	0	W	.....	0	0	Cloudy.....	
Denison, Texas	29.19	741.4	30.00	762.0	43	6.1	67	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Denver, Colorado	24.72	627.9	29.94	760.5	— 2	—18.9	67	S	4	1.8	.....	5c	0	Calm	.....	0.06	1.5	Fair...	
Des Moines, Iowa	29.49	749.0	30.47	773 9	10	—12.2	79	N	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Detroit, Michigan	29.42	747.3	30.11	764.8	31	— 0.6	69	NW	12	5.4	.....	1k	2s	NW	NW	0	0	Clear.	
Dodge City, Kansas	27.58	700.5	30.07	763.8	16	— 8.9	66	NE	14	6.3	.....	.....	10s	.....	W	0	0	Cloudy.....	
Dubuque, Iowa	29.66	753.4	30.43	772.9	16	— 8.9	66	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Duluth, Minnesota	29.80	756.9	30.60	777.2	—10	—23.3	77	SW	8	3 6	.....	.....	0	.....	.....	0	0	Clear.	
Eagle Pass, Texas	29.12	739.6	29.84	757.9	58	14.4	94	Calm	0	0	.....	.....	Fog	.....	Calm	.....	0	Foggy.....	
Eastport, Maine	29.61	752.1	29.68	753.9	40	4.4	100	S	2	0.9	.....	.....	Fog	.....	Calm	0.66	16.8	Dense fog....	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.31	744.5	30.04	763.0	39	3.9	73	NW	20	8.9	.....	10k	0	NW	.....	0	0	Cloudy.....	
Escanaba, Michigan	29.59	751.6	30.32	770.1	8	—13.3	55	NW	4	1.8	.....	0	0	.....	.....	0.13	3.3	Clear	
Florence, Arizona	28.22	716.8	29.82	757.4	48	8.9	78	S	12	5.4	.....	.....	10s	.....	S	0	0	Threatening	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.44	722.4	30.63	778.0	—17	—27.2	68	Calm	0	0	.....	5cs	0	NW	.....	0	0	Fair...	
Fort Custer, Montana	27.07	687.6	.....	.....	—11	—23.9	100	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear.	
Fort Davis, Texas	25.06	636.5	30.02	762.5	47	8.3	55	SW	2	0.9	.....	8c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.54	750.4	30.10	764.5	35	1.7	80	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Grant, Arizona	24.94	633.5	29.74	755.4	37	2.8	63	SE	11	4.9	.....	0	8s	.....	Calm	Ina.	Inap.	Cloudy.....	
Fort Griffin, Texas	28.71	729.2	30.02	762.5	36	2.2	61	N	12	5.4	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Keogh, Montana	27.59	700.8	.....	.....	— 8	—22.2	55	NE	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Fort McKavett, Texas	27.64	702.0	29.54	750.3	54	12.2	80	E	6	2.7	.....	.....	10ks	.....	E	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	30.01	762.2	27	— 2.8	64	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.65	727.7	.....	.....	—23	—30.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	35	1.7	90	W	.....	.....	4	.....	10n	.....	SW	0.57	14.5	Heavy snow	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.14	714.7	29.70	754.4	50	10.0	72	S	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	29.97	761.2	30.01	762.2	56	13.3	79	S	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Graham, Texas	28.92	734.6	30.01	762.2	38	3.3	51	N	8	3.6	.....	0	5s	.....	SW	0	0	Fair...	
Grand Haven, Michigan	29.52	749.8	30.21	767.3	30	— 1.1	78	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.14	740.1	30.13	765.3	29	— 1.7	78	NE	18	8.0	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Indianapolis, Indiana	29.32	744.7	30.12	765.0	37	2.8	63	NW	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Indianola, Texas	29.93	760.2	29.96	761.0	67	19.4	79	S	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Jacksboro, Texas	28.84	732.5	30.02	762.5	35	1.7	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.02	762.5	30.05	763.3	55	12.8	87	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Keokuk, Iowa	29.61	752.1	30.27	768.8	27	— 2.8	76	N	11	4.9	.....	0	5s	.....	N	0	0	Fair...	
Key West, Florida	30.02	762.5	30.05	763.3	68	20.0	70	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.92	760.0	29.94	760.5	50	10.0	100	NE	14	6.3	.....	.....	Fog	.....	NE	0.24	6.1	Foggy.....	
Knoxville, Tennessee	29.12	739.6	30.16	766.1	36	2.2	100	SW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
La Crosse, Wisconsin	29.63	752 6	30.47	773.9	5	—15.0	74	N	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	
La Mesilla, New Mexico	25.91	658.1	30.06	763.5	24	— 4.4	61	Calm	0	0	.....	2c	1s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.49	749.0	29.83	757.7	63	17.2	78	E	6	2.7	.....	2k	0	W	.....	0	0	Clear	
Leavenworth, Kansas	29.41	747.0	30.31	769 9	25	— 3.9	65	N	15	6.7	.....	.....	10s	.....	N	0	0	Cloudy.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.75	755.6	30.12	765.0	47	8.3	70	NE	6	2.7	.....	8c	0	W	.....	0	0	Fair...	
Los Angeles, California	29.34	745.2	29.69	754.1	39.0	3.9	77	W	4	1.8	.....	2k	0	W	.....	0.78	19.8	Clear.	
Louisville, Kentucky	29.54	750.3	30.11	764.8	43	6.1	67	N	8	3.6	.....	2c;ck	2s	Calm	Calm	0	0	Fair...	
Lynchburg, Virginia	29.32	744.7	30.01	762.2	49	9.4	85	W	2	0.9	.....	0	0	.....	.....	0.07	1.8	Clear.	
Madison, Wisconsin	29.26	743.2	30.34	770.6	13	—10.6	62	NW	16	7.2	.....	2c	0	W	.....	Inap.	Inap.	Fair...	
Marquette, Michigan	29.51	749.5	30.28	769.1	9	—12.8	78	NW	16	7.2	.....	.....	10s	.....	N	0.22	5 6	Cloudy.....	
Mason, Texas	28.25	717.5	29.97	761.2	62	16.7	77	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy.....	
Memphis, Tennessee	29.73	755.1	30.07	763.8	49	9.4	71	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.50	749.3	30.29	769.4	20	— 6.7	70	NW	13	5.8	.....	0	1s	.....	Calm	0	0	Clear.	
Mobile, Alabama	30.07	763.8	30.11	764.8	43	6.1	100	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.88	758.9	30.12	765.0	42	5.6	91	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Morgantown, West Virginia	29.06	738.1	30.08	764.0	39	3.9	91	Calm	0	0	.....	.....	Fog	.....	.....	0.22	5.6	Dense fog	
Mt. Washington, N. H.	23.48	596.4	29.84	757.9	34	1.1	100	NW	66	29.5	.....	.....	Fog	.....	NW	0.21	5.3	Foggy	
Nashville, Tennessee	29.60	751.8	30.14	765.5	44	6.7	84	Calm	0	0	.....	1k	Sm'e	Calm	Calm	0	0	Dense smoke	
New Haven, Connecticut	29.74	755.4	29.85	758.2	46	7.8	100	SW	4	1.8	.....	.....	Fog	.....	Calm	0.89	22.6	Dense fog	
New London, Connecticut	29 78	756.4	29.83	757.7	48	8.9	97	WSW	4	1.8	.....	.....	Fog	.....	Calm	0.55	14.0	Dense fog	
New Orleans, Louisiana	30.03	762.7	30.10	764.5	54	12.2	73	SW	2	0.9	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Newport, Rhode Island	29.77	756.1	29.82	757.4	45	7.2	100	Calm	0	0	.....	.....	Fog	.....	.....	0.39	9.9	Foggy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.71	754 6	29.89	759.2	49	9.4	100	SW	2	0.9	.....	5ck	Fog	SW	.....	0.52	13.2	Dense fog	
Norfolk, Virginia	29.90	759.4	29.96	761.0	53	11.7	80	N	3	1.3	.....	.....	Fog	.....	Calm	0.27	6.9	Foggy	
North Platte, Nebraska	27.34	694.4	30.19	766.8	8	—13.3	78	NE	12	5.4	.....	10c	0	W	.....	0.01	0.3	Cloudy	
Olympia, Washington Ter	30.10	766.1	30.20	767.1	18.5	— 7.5	92	SE	2	0.9	.....	0	2s	.....	Calm	0.07	1.8	Clear	
Omaha, Nebraska	29.24	742.7	30.48	774.2	6	—14.4	76	N	17	7.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Oswego, New York	29.52	749.8	29.84	757.9	39	3.9	91	S	3	1.3	.....	1cs	0	SW	.....	0.32	8.1	Clear	
Pembina, Dakota	29.68	753.9	30.09	770.5	—30	—34.4	100	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.11	764.8	30.14	765.6	48	8.9	78	NW	7	3.1	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Philadelphia, Pennsylvania	29.89	759.2	29.94	760.5	60	10.0	86	NW	12	5.4	.....	0	Fog	.....	Calm	0.36	9.1	Clear	
Phœnix, Arizona	28.54	724.9	30.32	770.1	54	12.2	55	S	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Pike's Peak, Colorado	17.27	438.6	29.48	748.8	—12	—24.4	100	SW	8	3.6	.....	.....	10s	.....	Calm	1.24	31.5	Cloudy	
Pilot Point, Texas	29.31	744.5	30.17	766.3	41	5.0	58	N	9	4.0	.....	.....	10s	.....	N	0	0	Cloudy	
Pioche, Nevada	23.56	598.4	29.33	745.0	11	—11.7	80	N	9	4.0	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Pittsburg, Pennsylvania	29.22	742.2	30.04	763.0	43	6.1	83	Calm	0	0	.....	0	Fog	.....	Calm	0.09	2.3	Clear	
Port Huron, Michigan	29.41	747.0	30.10	764.5	30	— 1.1	68	NW	15	6.7	.....	0	2ks	.....	NW	0	0	Clear	
Portland, Maine	29.67	753.6	29.72	754.9	42	5.6	91	W	4	1.8	.....	.....	10s	.....	Calm	1.97	50.0	Cloudy	
Portland, Oregon	30.08	764.0	30.15	765.8	28	— 2.2	83	NW	10	4.5	.....	0	0	.....	.....	0.03	0.8	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.18	4.6	.....	
Prescott, Arizona	24.27	616.4	29.63	752.6	32	0.0	100	S	.....	.....	2	.....	10n	.....	Calm	0.08	2.0	Heavy snow	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	61	16.1	77	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Red Bluff, California	29.45	748.0	29.82	757.4	31	— 0.6	58	N	18	8.0	.....	0	0	.....	.....	0.03	0.8	Clear	
Rio Grande City, Texas	29.71	754.6	29.92	760.0	62	16.7	88	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.21	741.9	29.82	757.4	43	6.1	83	W	12	5.4	.....	0	1s;fg	.....	Calm	0.17	4.3	Clear	
Roseburg, Oregon	29.47	748.5	30.06	763.5	28	— 2.2	94	NW	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Sacramento, California	29.66	753.4	29.74	755.4	32	0.0	74	N	10	4.5	.....	0	0	.....	.....	0.03	0.8	Clear	
St. Louis, Missouri	29.64	752.8	30.24	768.1	34	1.1	79	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
St. Paul, Minnesota	29.58	751.3	30.53	775.4	0	—17.8	56	NW	11	4.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
Salt Lake City, Utah	25.35	643.9	29.68	753.9	18	— 7.8	53	Calm	0	0	.....	4k	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29 25	742.9	29.83	757.7	62	16.7	94	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.71	754.6	29.78	756 4	44	6.7	84	NW	22	9.8	.....	.....	8ks	.....	NW	0.38	9.7	Cloudy	
Sandusky, Ohio	29.43	747.5	30.13	765.3	38	3.3	72	NW	24	10.7	.....	.....	10ks	.....	NW	0	0	Cloudy	
Sandy Hook, New Jersey	29.85	758.2	29.88	758.9	47	8.3	92	W	12	5.4	.....	5ck	Fog	NW	Calm	0.33	8.4	Fair	
San Francisco, California	29.71	754.6	29.77	756.1	39	3.9	73	N	6	2.7	.....	1k	0	N	.....	0.06	1.5	Clear	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	12	—11.1	61	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.92	760.0	30.01	762.2	56	13.3	94	NW	7	3.1	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	29.77	756.1	29.99	761.7	52	11.1	86	S	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.92	760.0	29.96	761.0	56	13.3	100	NW	8	3.6	.....	.....	Fog	.....	.....	0.35	8.9	Foggy	
Socorro, New Mexico	25.18	639.6	29.25	742.9	29	— 1.7	56	S	2	0.9	.....	0	5s	.....	W	0	0	Fair	
Springfield, Illinois	29.58	751.3	30.29	769.4	30	— 1.1	62	N	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Springfield, Massachusetts	29.72	754.9	29.85	758.2	40	4.4	91	Calm	0	0	.....	.....	Fog	.....	.....	1.20	30.5	Dense fog	
Stockton, Texas	26.87	682.5	29.87	758.7	55	12.8	17	NE	.....	.....	.....	.....	10s	.....	N	0	0	Threatening	
Thatcher's Island, Mass	29.75	755.6	29.80	756.9	42	5.6	91	W	7	3.1	.....	8c	Haze	W	.....	0.30	7.6	Cloudy	
Toledo, Ohio	29.43	747.5	30.14	765.5	35	1.7	70	W	10	4.5	.....	2cs	0	SW	.....	0	0	Clear	
Tucson, Arizona	27.32	693.9	29.87	758.7	43	6.1	58	SE	6	2.7	.....	5ck	0	SW	.....	Inap.	Inap.	Fair	
Umatilla, Oregon	29.83	757.7	30.36	771.1	23.5	— 4.7	86	SE	5	2.2	.....	.....	10ks	.....	NE	0	0	Cloudy	
Uvalde, Texas	28.88	733.5	29.79	756.7	62	16.7	88	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.83	757.7	30.09	764.3	51	10.6	93	S	7	3.1	.....	8k	0	W	.....	0	0	Fair	
Virginia City, Montana	24.12	612.6	29.60	751.8	— 6	—21.1	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.27	743.4	29.65	753.1	35.5	1.9	94	NW	5	2.2	.....	.....	10s	.....	Calm	0.39	9.9	Cloudy	
Washington, D. C	29.89	759.2	30.00	762.0	47	8.3	92	NW	5	2.2	.....	.....	10s	.....	NW	0.28	7.1	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	100	NE	.....	.....	1	.....	10n	.....	Calm	1.01	25.7	Heavy rain	
Wilmington, North Carolina	29.85	758.2	29 93	760.2	56	13.3	100	NE	8	3.6	.....	.....	Fog	.....	Calm	0.22	5.6	Foggy	
Winnemucca, Nevada	25.36	644.1	29.72	754.9	9	—12.8	78	NE	17	7.6	.....	0	7s	.....	NE	Inap.	Inap.	Fair	
Wood's Holl, Massachusetts	29.78	756.4	29.82	757.4	46	7.8	92	W	10	4.5	.....	.....	10s;fg	.....	Calm	0.28	7.1	Cloudy	
Yankton, Dakota	29.21	741.9	30.70	779.8	— 1	—18.3	68	NW	7	3.1	.....	0	0	.....	.....	0.11	2.8	Clear	
Yuma, Arizona	29.54	750.3	29.68	753.9	49	9.4	78	SW	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	67	19.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.21	767.3	30.22	767.6	72	22.2	86	Calm	0	0	.....	0	5cs	.....	.....	0	0	Fair	James Gall.
Navassa, W. I	29.81	757.2	29.89	759.2	76.5	24.7	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	80	26.7	87	E	.....	.....	3	.....	10n	.....	.....	0.350	8.89	Raining	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.40	746.7	29.95	760.7	79	26.1	85	Calm	.....	.....	0	.....	10ks	.....	.....	0.01	0.3	.....	Francesco J. Cisneros.
Santiago de Cuba, W I	30.01	762.2	30.04	763.0	74	23.3	81	Calm	0	0	.....	0	2s	.....	.....	0	0	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.34	770.6	30.39	771.9	—26.0	—32.2	.....	SW	7	3.1	.....	.....	10n	.....	NW	0.40	10.2	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Bracketville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,560 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.69 in., or 68.1 mm.; Winnemucca, 4.83 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15‡	765.8‡			48	8.9	85	NE	1	0.4			0							Clear.	
Navy Yard, Portsmouth, N. H.	29.62‡	752.3‡			39	3.9	91	SW	1	0.4			10							Pleasant.	
Alaska, Coquimbo, Chili	29.87‡	758.7‡			65	18.3	84	Calm			0		0							Blue sky.	
Colorado, New York, N. Y.	29.75‡	755.6‡			50	10.0		SW			3		8		SW	0.4	10.			Foggy.	
Constitution, N. 15° 35′, W. 69° 55′	30.00‡	762.0‡			78	25.6	78	ENE			4		5		ENE			Smooth	E	Fair	
Enterprise, Smyrna, Turkey	30.56‡	776.2‡			41	5.0	65	ENE			5		1		ENE			Mod'ate		Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	29.96‡	761.0‡			54	12.2	87	NNW	5	2.2			10		NNW	0.34	8.6			Cloudy.	
Independence, Mare I'd, Navy Yard, Cal.	29.76‡	755.9‡			30	— 1.1	100	NW	0	0			10?		NW	0	0			Clear?	
Kearsarge, Key West, Fla.	30.07‡	763.8‡			70	21.1	70	W			3		0					Smooth		Clear	
Lackawana, N. 35° 17′, W. 136° 00′	30.41‡	772.4‡			54	12.2	100	N			4		10		N			Long	N	Cloudy	
Marion, S. 17° 15′, W. 37° 35′	29.99‡	761.7‡			81	27.2	75	ENE			3		5		E; Calm	0	0	Smooth	E	Fair.	
Michigan, Erie, Pa.	30.02‡	762.5‡			37	2.8	81	WNW			4		10		WNW					Cloudy.	
Monocacy, Shanghai, China	30.51‡	774.9‡			34	1.1	79	S			1		0							Clear	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡			58	14.4	94	NW	10	4.5						0.02	0.5			Foggy	
Nipsic, N. 10° 17′, W. 65° 00′	29.96‡	761.0‡			75	23.9	81	SE			3		2						ESE	D. clouds.	
Onward, Callao, Peru	29.89‡	759.2‡			67	19.4	95	SSE			2		10					Mod'a smooth	W	Foggy.	
Palos, Tientsin, China	30.51‡	774.9‡			22	— 5.6	100	E			3		0							Clear.	
Passaic, Washington, D. C.	30.00‡	762.0‡			47	8.3	85	Calm			0		10							Cloudy.	
Pensacola, Callao, Peru	29.85‡	758.2‡			67	19.4	95	SE			2		10					Smooth		Foggy.	
Powhatan, Off Ellis I'd., N. Y. Harbor	29.92‡	760.0‡			49	9.4	93	WSW			1		2			0	0			Foggy.	
Quinnebaug, Leghorn, Italy	30.35‡	770.9‡			47	8.3	77	E			3		10		E					Raining	
Ranger, N. 36° 45′, W. 145° 15′	30.54‡	775.7‡			54	12.2	80	ENE			1		10		Calm			Smooth		Cloudy.	
Richmond, Hong-Kong, China	30.30‡	769.6‡			56	13.3	81	ENE			2		0					Smooth		Clear.	
Rio Bravo, Brownsville, Texas	30.06‡	763.5‡			63	17.2	100	SE	3	1.3			2		Calm	0	0			Fair.	
Santee, Annapolis, Md.	30.01‡	762.2‡			48	8.9	100	NW			2		Fog			0.02	0.5			Foggy.	
Shenandoah, Montevideo, Uruguay	29.91‡	759.7‡			69	20.6	43	WSW			1		0					Smooth		Clear	
St. Louis, League Island, Pa.	29.96‡	761.0‡			45	7.2	100	NW	8	3.6			2		NW	0.5	13.			Clear	
Swatara, N. 40° 25′, W. 52° 52′	30.38‡	771.6‡			49	9.4	71	S			2		2		S			Smooth	S	Clear	
Tennessee, Norfolk, Va.	29.93‡	760.2‡			52	11.1	93	NW	4	1.8			10		Calm	0.30	7.6			D. clouds.	
Trenton, Port Mahon, Minorca, Med	30.03‡	762.7‡			58	14.4	82	SE			4		10		E	Blank	Blank			Cloudy.	
Tuscarora, La Union, S. Salvador	29.91‡	759.7‡			79	26.1	91	Calm			0		2		Calm			Smooth		Fair.	
Wabash, Boston, Mass.	29.82‡	757.4‡			43	6.1	92	NW	2	0.9			10			0.04	1.0			Foggy.	
Wyoming, Villafranca, France	30.26‡	768.6‡			55	12.8	56	ESE			1–2		10		SE			Smooth	SE	Cloudy.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian, N. 38° 18′, W. 73° 24′		29.76‡	755.6‡	53	11.7	93	WNW			3		10		NW		Mod'ate	E	Foggy	R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham,																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 50° 05′, W. 37° 30′		29.76‡	755.9‡	42	5.6		WSW			4		5		W		Mod'ate	NW	Squally	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Philadelphia, Pa.*		30.27‡	768.8‡	52	11.1		NW			2		3		NW		Mod'ate		Clear.	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 49° 44′, W. 7° 34′		30.27‡	768.8‡	50.0	10.0	76	SSE			5		2		S	0	Mod'ate	SSE	Clear.	S. Risius.
S. S. Ohio, G. Meyer, N. 34° 29′, W. 72° 56′		29.95‡	760.7‡				S			3		10		S		Long	S	Light rain...	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 14′, W. 177° 41′	†	29.82‡	757.4‡	62	16.7	77	WSW			6		10		WNW		Mod'ate	NW	Cloudy	D. A. Joyce.
S. S. Gaelic, Davidson, N. 38° 36′, E. 151° 01′	†	30.08‡	764.0‡	38	3.3		NW			6	ck		NW			Rough	NW	Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

‡Aneroid. †Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd. †		30.12‡	765 0‡	26	— 3.3		W			1		2		W				Fair	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China. †		30.22‡	767.6‡	63	17.2	83	ESE			1		10			0	Smooth		Overcast	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest. N. 35° 32′, W. 130° 41′		30.44‡	773.2‡				NE			6				N		Heavy	N	Squally	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson N. 42° 48′, W. 57° 38′		29.87‡	758.7‡	54	12.2		S	50	22.4			10			0	Rough	SSW	Overcast	
S. S. Nederland, S. Stokes. N. 49° 09′, W. 21° 51′ †		29 49‡	749.0‡	55	12.8		SW			6		10		SW		High	wsw	Raining	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry, Liverpool, Eng		30.22‡	767.4‡	30	— 1.1		SSE			4		Fog		S		Smooth		Dense fog	J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mchaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 4° 08′, E. 32° 45′		29.92‡	760.0‡	58	14.4		NNW			5		10		NNW		Long	wsw	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I. †		30.18‡	766 6‡	74	23.3		NNE			5		2			0			Clear	
Iron Cross, W. Randall, N. 52° 10′, W 5°50′		30 15‡	765.8‡	47.5	8.6	84	S			6		8		SW	0	Mod'ate	SW	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time

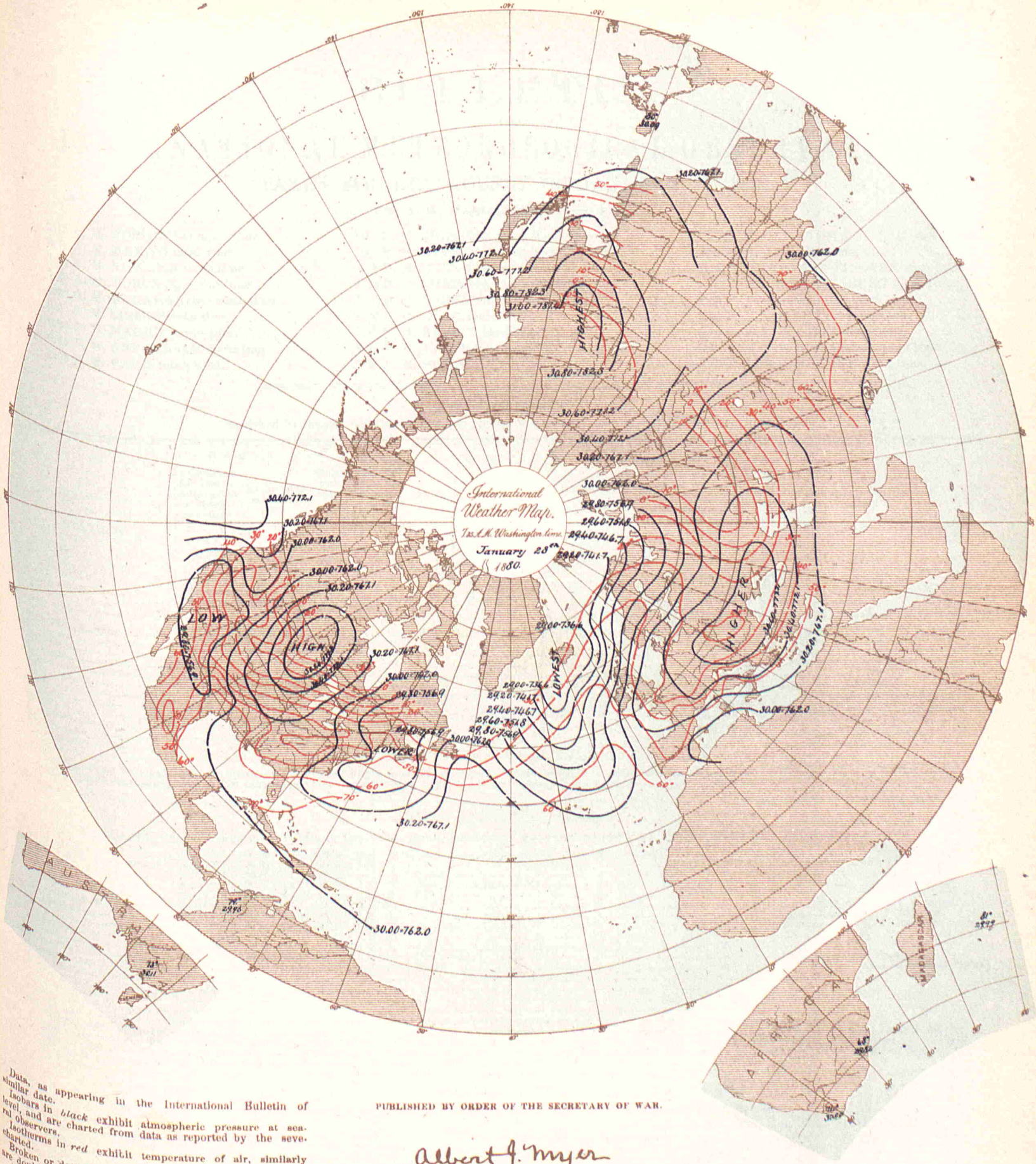
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 29, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.16	766.1				NE			2		2			0	0	Fair	
Nemours			30.14	765.5	60.8	16.0	85	N			1		8			0.266	6.6	Very cloudy	Kesxuche.
Algiers			29.94	760.5	55.0	12.8	86	N			3		10			0.244	6.2	Covered	Tourillere.
La Calle			29.93	760.2	59.0	15.0	80	E			4		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			29.95	760.7															Herbin.
Tebessa			29.95	760.8															
Geriville			29.93	760.2	50.7	10.4	56	WSW			2		10			0.008	0.2	Covered	Watrin.
Laghouat								N			3		10			0	0	Covered	Brugnlaux.
Biskra			29.97	761.1	54.3	12.4	34	NNW			3		8			0.236	6.0	Very cloudy	Bertrand.
			29.86	758.3	51.1	10.6	95	WNW			2		9			0.854	21.7	Covered	Chauvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram												0				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.98	761.6	30.58	776.8	25.0	— 3.9	89					0				0	0		Dr. Wierzbicki.
Eperies	29.82	757.4	30.52	775.3	28.8	— 1.8	72	S	0	0		1				0	0		Julius Mikolik.
Gratz	29.63	752.6	30.60	777.2	17.2	— 8.2	79	Calm			0	0				0	0		Andreas Rospini.
Hermannstadt	29.22	742.3	30.57	776.4	27.0	— 2.8	76	SW			1	0				0	0		Prof. A. Gottschling
Kremsmünster	29.11	739.4	30.69	779.5	17.8	— 7.9	86	NNW			1	0				0	0		Prof. C. Wagner.
Lemberg	29.03	737.3	30.47	774.0	25.2	— 3.8	100	NE			1	10				0	0		Dr. T. Stanecki.
Pola	29.44	747.7	30.48	774.3	33.8	1.0	85	S			1	0				0	0		I.R.Hydrographic Office
Szathmar	30.31	769.8	30.43	772.8	48.9	9.4	84	SW			1	3				0.047	1.2	Raining	Pet. Pancsics, S. J.
Szegedin	30.14	765.5	30.64	778.2	28.0	— 2.2	83	E			2	0				0	0		Karl Stancel.
Trieste	30.28	769.2	30.59	776.9	24.8	— 4.0	77	Calm			0	0				0	0		P. Busin.
Vienna	30.34	770.5	30.44	773.1	50.0	10.0	54	Calm			0	0				0	0	Foggy	I.R.Central Met. Ob'sy.
	29.78	756.3	30.52	775.3	28.0	— 2.2	79	ESE			1	0				0	0		

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	30.06	763.5	30.27	768.9	32.5	0.3	69	SW			1	0				0	0		Royal Observatory
Furnes	30.24	768.1	30.26	768.7	32.0	0.0	80	SSW			2	0				0	0		M. E. de Cae.
Maeseyck	30.17	766.2	30.39	769.4	28.4	— 2.0	86	SE			0	0				0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, Without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C. as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.84	757.9	45.0	7.2		SW	9	4.0			9			0.025	0.64	Overcast	W. Boswell.
Ardrossan	29.83	757.7	29.85	758.2	46	7.8		SSW			6		8					Overcast	G.Carrick.
Armagh, (Observatory)	29.59	751.6	29.83	757.7	46.0	8.1		S	21	9.4			10					Squally	S. Call.
Bidston (Liverpool Obs)			30.02	762.5	38.6	3.6		ESE	13	5.8			2					Blue sky	John Hartnup.
Bolton (Sharples)	29.51	749.5	30.04	763.0	34.3	1.3		SSW					7					*D. clouds*	*Thomas Mackereth.*
Bradford, Yorkshire	29.64	752.8	30.04	763.0	46.1	7.8	49	W			3		5			0	0	D. clouds	J. McLandsborough.
Bridgetown, Barbadoes	29.93	760.2	29.96	761.0	78	25.6		NE			2		2					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.09	764.3	30.19	766.8	35.0	1.7		SW			1		0					Blue sky	H. Todd.
Cardington			30.12	765.0	32.6	0.0		SW			0–1		2					Blue sky	John McLaren.
Chatham (School M. E.)	30.09	764.3	30.22	767.6	28.2	— 2.1		W			0		0					Foggy	W. Gibson, Sapper, R.E
Donaghadee	29.83	757.7	29.87	758.7	46	7.8		SW			6		8					D. clouds	J. Mac Gowan.
Dover	30.19	766.8	30.22	767.6	37	2.8		SW			3		6					Misty	*J. Costello.*
Falmouth (Observatory)	29.87	758.7	30.11	764.8	46.7	8.2		SSE			3		6?					Overcast ?...	The Staff.
Fort Napier, Natal	27.64	702.0	29.86	758.4	74.1	23.4		NE			2		6					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone																			
Galway (Queen's College)			*29.68*	*753.9*	48	8.9		S			*5*		10			0.19	4.8	Raining	Prof. A. H. Curtis.
Gibraltar, Mediterranean																			Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	29.64	752.8	29.84	757 9	45.5	7.7		S			6		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.19	766.8	30.20	767.1	27	— 2.8		WSW			1		4					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.04	763.0	30.22	767.6	27.8	— 2.3		SW			1		10					Foggy	The Staff, for G.B.Airy.
Guernsey	29.93	760.2	30.17	766.3	41.5	5.5		SE			3		0					Blue sky	Dr. S.E Hoskins, F.R.S.
Helston	30.22	767.6	30.34	770.6	37	2.8		S			2	3c				0	0	Fine	M. P. Moyle.
Holyhead	29.92	760.0	29.99	761.7	45	7.2		SSW			6		6					*D. clouds*	*John Tilston.*
Jersey	29.93	760.2	30.23	767.8	40.6	4.4		SSE			2		0					Misty	J. Fisher.
Kew (Observatory)	30.18	766.6	30.22	767.6	27.6	— 2.4		NNW	1	0.4			Fog					Foggy	The Met'g'l Office.
Leicester (Museum)	29.85	758.2	30.12	765.0	32.5	0.3		SW			2		0					Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.87	758.7	29.94	760.5	59.4	15.2		SE			5		10					Showery	A. King.
Nairn	29.70	754.4	29.79	756.7	44	6.7		Calm			0		10					Raining	W. D. Penny.
Nassau, Bahamas			30.06	763.5	70.5	21.4		N			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.91	759.7	30.11	764.8	32.3	0.2		S			1	1c				0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.58	751.3	30.13	765.3	30.7	— 0.7		S			2		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.96	761.0	30.22	767.6	28	— 2.2		W			1		10					Overcast	H. E. Bellamy.
Plymouth	30.05	763.3	30.12	765.0	44.8	7.1		ESE			1		0					Misty	John Merrifield.
*Roche's Point	29.80	756.9	29.89	759.2	49	9.4		SSW			6		10					Overcast	Wm. Kennedy.
St. Ann's Head	29.88	758.9	30.04	763.0	44	6.7		SSE			6		10					Overcast	John C. Walker.
Sandwick Manse, Orkneys			29.81	757.2	42.2	5.7		Calm	0	0			10					Drizzling	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.53	775.4	30.60	777 2	40.2	4.6		ESE			1		0					Blue sky	Serg't W. H. Lyne.
Sheffield	29.82	757.4	30.11	764.8	44.6	6.7		SW			1		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.91	759.7	29.94	760.5	44.8	7.1	74	SW			6		7			0	0	D. clouds	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.03	762.7	37.4	3.0		SSE	4	1.8			8					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss					29.3	— 1.5		SE			1		10					*Foggy*	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.04	763.0	30.12	765.0	49	9.4		SE			6		0					Blue sky	W. Newcombe.
Valencia (Observatory)	29.67	753.6	29.70	754.4	49.8	9.9		S	47	21.0			10					Raining	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.82	757.4	29.86	758.4	73	22.8	74	S	25.6	11.4		0	0			0	0	Hazy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.64	676.6			87	30.6		W					0						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania																			Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd																			*C. Meldrum.*
Mauritius (Observatory)	29.83	757.7	30.02	762.4	80.4	26.9	64	SE	25.5	11.4		1	6		E	0.3	0.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.07	763.8	30.16	766.0	65.0	18.3	80	S	5	2.2			3			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.71	754.6	46	7.8		NW			4		10		SE	0.5	13.		
North Unst, Shetland Is			29.72	754.9				W			4		10			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
H. M. S. Alert, Off Cape Gallant, Patagonia			29.51‡	749.5‡	47	8.3		WSW			1		7					D. clouds	Capt. A. J. Brown
City of Agra, S. 56° 27′, W. 71° 15′			29.38‡	746.2‡	44.5	6.9		SW			5		4					D. clouds	Capt. Thos. Young.
City of Cashmere, S. 39° 40′, W. 34° 28′			30.20‡	767.1‡	60	15.6		SE			2		6					D. clouds	Capt. W. M. Grieve.
Barque Commewyne, N. 45° 40′, W. 20° 05′			29.71‡	754.6‡	52.3	11.3		SSW			4		10					Overcast	Capt. Jas. Buchan.
Barque Fedalma, N. 49° 55′, W. 4° 25′			30.14	765.5				SSE			3		0			2	SSW	Misty	Capt. H. L. Fox.
Bqte Fylde, N. 39° 53′, W. 35° 25′			30.10	764.5	54	12.2		WSW			2		5			6	WNW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			29.74‡	755.4‡	70	21.1		E			5		1					Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 25′, W. 76° 55′			30.07	763.8	74	23.3		NNE			2		3					D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 6° 27′ E. 85° 55′			29.92	760.0‡	80.8	27.1		W			3		6					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven, N. 45° 50′, W. 7° 20′			30.05‡	763.3‡	53.5	11.9		SSE			4		8					Misty	Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. C. Campbell.
S. S. Decapolis																			Capt. A. Campbell.
Barque Dochra																			Capt. T. M. Almond.
																			Capt. N. Spalding.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. *The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.*
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.18	665.0	29.90	759 4	61.7	16.5	79	NE			2		1d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.16	766.0	30.21	767.2	28.8	— 1.8	86	SSW			2		0						
Faröe	30.15	765.9	30.17	766.4	31.1	— 0.5	94	S			4		0						
Godthaab (Greenland)	28.84	732.5	28.88	733.6	—0.4	—18.0	84	NNE			4		1						
Stykkisholm (Iceland)	29.15	740.3	29.19	741.4	21.2	— 6.0	95	W			6		8					Snowing	
Thorshavn (Faröe)	29.06	738.4	29.70	754.3	34.9	1.6	91	W			4		6						
Vestervig	29.99	761.8	30.10	764.6	34.7	1.5	93	SW			4		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.76	755.8	30.31	769.8	34.7	1.5	74	SW			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.17	766.3	30.29	769.3				NE			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.04	763.1	30.28	769.1	30.7	— 0.7	94	S			1					0	0	Light mist	Klein, Commandant.
Avignon, Normal School	30.21	767.3	30.20	769.3	51.8	11	60	N			1		0			0.098	2.5	Very clear	Giraud, Director.
Bar-sur-Seine	29.76	755.8	30.35	770.8	34.7	1.5	69	S					0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.01	762.2	30.29	769.4	27.7	— 2.4	85	E			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.48	748.8	30.45	773.3	29.7	— 1.3		NE			1		5		SW	0	0	Cloudy	A. Carré, Director.
Bordeaux	29.97	761.2	30.17	766.2	51.8	11.0	65	ESE			2	2c				0	0	Almost clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.47	748 6	30.39	772.0	33.1	0.6	100	N			1	5c		S		0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.71	754.6	30.28	769.1	44.6	7	71	N			1		10		NE	0	0	Lightly cov'd	M. Gence, Director.
Brest, Naval Observatory	29.93	760.1	30.17	766.3	48.9	9.4	73	SSE			1		6			0	0		Ch. de Kermaree, Dir
Caen, Normal School	30.16	766.1	30.24	768.2	37.4	3	50	S			1–2		0			0	0	Clear	M. Bletrin, Director.
Carcassonne, N. School	29.78	756.3	30.20	767.0	50.9	10.5	92	ESE			3		10	ESE	ESE	0.110	2.8	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.99	761.8	30.33	770.4	29.8	— 1.2		Calm			0		0					Clear	Jadot, Director
Chartres, Normal School	29.65	753.0	30.23	767.8	42.4	5.8	35	SSE			1		0			0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.87	733.4	30.24	768.2	52.7	11.5	55	E			1		2			0	0	Light mist	Alluard, Director.
Commercy, Normal School	29.43	747.5	30.35	770 8	27.0	— 2.8	82	E			1		1		E	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.13	739.9	30.27	768.9	56.7	13.7	43	SE			3		5		SE	0.008	0.2		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.55	75.6	30.36	771.2	32.5	0.3		E			1	c		NE		0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.02	762.4	30.24	768.0	50.7	10.4	80	NE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.97	761.2	30.30	769.6	34.2	1.2	76	E			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.38	746.3	30.33	770.3	33.6	0.9	60	N			2		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.11	764.8	30.22	767.6	42.4	5.8	82	SSE			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.70	754.4	30.35	770.9	37.0	2.8	65	ENE			1		cs			0	0	Hazy	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.93	760.1	30.20	767.0	61.0	16.1	47	E			2		3		SE	Inap.	Inap.		E. Stephan, Director.
Mirecourt, Normal School	29.27	743.4	30.38	771.7	30.2	— 1	84	SE			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	24.91	632.7	30.23	767.7	31.1	— 0.5	76	E	7.4	3.3			10		E	0.209	5.3	Snowing	M. Cave, for Dr. Fines.
Nice	30.24	768.2	30.28	769.1	55.4	13.0	59	E			4		1	E	E	0.134	3.4	Clear	Capt. Boissière, Director.
Nismes, Normal School	30.03	762.7	30.20	768.0	54.3	12.4	59	NE			1		0			0.04	1.	Clear	M. Boyer, Director.
Paris, Montsouris Obs'y	30.00	762.1			38.1	3.4	60	SSE			1		0			0	0		Marié Davy, Director.
Perpignan	30.13	765.2	30.24	768.1	48.0	8.9	82	SE	3.8	1.7			10		E	1.760	44.7	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.54	572.6			32.9	0.5									S	0	0		M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.26	743.3	30.36	771.2	45.3	7.4	55	N			1		1	S	S	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	28.29	642.4			35.6	2.0	87	S			4		8			0	0	¾ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.19	766.9	30.23	767.7	50.7	10.4	76	ESE			2		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.19	766.7	30.27	768.9	32.4	0.2	73	SE			1		0			0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.16	766.0	30.19	766.8	43.5	6.4	51	SSE			3		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.13	765.3	30.30	769.5	37.4	3.0	51	S			1		0			0.008	0.2	Clear	E. Renou, Director.
Tarbes, Normal School	29.10	739.0	30.18	766.5	57.2	14	47	E			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.53	750.0	30.26	768.5	48.6	9.2	88	SE			4		2	SE		0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	30.06	763.5	30.26	768.5	41.7	5.4	69	ESE			1		1		W	0	0	Al. covered	M. de Tastes.
Versailles, Observatory	29.79	756.7	30.28	769.2	39.6	4.2	54	S			1		0			0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.61	752.0	30.35	771.0	39.2	4	88	NE			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	75.2	24										0.39	10.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.45	773.5	30.48	774.1	40.3	4.0	80	ESE	10.1	4.5			3k		S	0	0	Fair	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.97 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.52	749.7	30.39	771.9	20.8	— 6.2	71	NE			4		28			0	0		Prof. Dr. Hoh.
Berlin	30.15	765.8	30.33	770.4	31.1	— 0.5	64	S			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.88	759.0	30.42	772.7	35.6	2.0	69	S			1		0			0	0		Royal University Obs'y
Carlsruhe	29.95	760.8	30.42	772.6	25.2	— 3.8	73	S			0		0			0	0	Foggy	Albert Senz.
Cassel	29.72	755.0	30.34	770.6	24.8	— 4.0	69	SE			3		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.11	764.7	30.49	774.5	24.3	— 4.3	58	S			1		2			0	0	Foggy	Physical Society.
Friedrichshafen	28.93	734.7	30.47	774.0	22.8	— 5.1	90	SW			2		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.21	767.4	30.28	769.2	27.3	— 2.6	74	SSW			1		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.21	767.4	30.23	767.8	29.1	— 1.6	82	SW			2		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.28	769.1	30.37	771.3	30.2	— 1.0	76	SW			4		0			0	0		Prof. E. Luther.
Köslin			30.29	769.3	26.6	— 3.0		S			2		0			0	0		H. Müller.
Leipsic Observatory	29.94	760.4	30.38	771.7	33.1	0.6	63	SSW			1		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.11	764.7	30.34	770.5	27.7	— 2.4	70	SE			2		0			0	0	Light fog	Dr. Assmann.
Memel	30.20	769.4	30.34	770.6	31.5	— 0.3	98	SW			3–4		0						Reinbrecht & Issermann
Munich (München)	28.51	724.1	30.39	772.0	21.7	— 5.7	79	N			2		1			0	0		Dr. C. Lang.
Neufahrwasser	30.34	770.7	30.36	771.1	28.8	— 1.8	80	S			1		0			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.84	758.0	30.37	771.5	27.3	— 2.6		Calm			0					0	0		Reallehrer Dicknether.
Posen	30.10	764.5	30.41	772.4	28.0	— 2.2	79	S			2		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.85	758.3	30.45	773.5	23.2	— 4.9	83	NE			1		1			0	0		Imp. University Observatory.
Stuttgart	29.39	746.4	30.38	771.7	32.0	0.0	60	N					0			0	0		Prof. Dr. Schoder.
Thorn	30.25	768.3	30.44	773.2	31.1	— 0.5	75	E			0		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.86	733.1	30.46	773.6	29.1	— 1.6	77	SE	2.5	1.1		2c		SE		0	0	Foggy	Reallehrer J. Hopfner
Wustrow	30.26	768.5	30.28	769.1	27.0	— 2.8	89	S			2		48			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; *Posen, 2:0, instead of 1:51, p. m., local time.*

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.16	766.0	30.56	776.1	51.4	10.8		NE			2.0		0					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.4	30.03	762.8	75.7	24.3	49	NW	16	7.2			4	NW		0	0	D. clouds	
Deesa	29.61	752.1	30.09	764.2	81.4	27.4	26	Calm	8.8	3.9			1	WSW		0	0	D. clouds	
Bombay	29.94	760.5	29.8	761.5	78.5	25.8	64	WNW	12	5.4			1	NW		0	0	D. clouds	
Poona (Yarrowda)	28.14	714.7	30.00	761.9	80.8	27.1	22	E	8	3.6			0			0	0	Blue sky	
Belgaum	27.47	697.7	30.02	762.4	76.7	24.8	28	E	5	2.2			0			0	0	Blue sky	
Lahore	29.41	746.9	30.18	766.5	66.6	19.2	33	Calm	1.4	0.6			6			0	0	Blue sky	
Roorkee	29.21	741.9	30.14	765.6	67.2	19.6	48	NW	1.3	0.6			7			0	0	D. clouds	
Agra	29.58	751.2	30.16	766.1	68.7	20.4	56	Calm	1.4	0.6			6		E	0	0		
Nagpur	29.01	736.7	30.06	763.6	75.5	24.2	42	S	2.1	0.9			3	S		0	0	D. clouds	
Jubbulpore	28.70	728.9	30.10	764.5	70.2	21.2	28	Calm	0.8	0.4			0			0	0	Blue sky	
Lucknow	29.75	755.7	30.14	765.7	69.3	20.7	46	Calm	0.1	0.04			0			0	0	Blue sky	
Allahabad	29.80	757.0	30.13	765.3	65.7	18.7	68	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.93	760.2	30.12	765.0	70.1	21.2	53	Calm	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.98	710.7	30.06	763.5	63.8	17.7	48	N	2.8	1.2			8			0	0		
Cuttack	30.00	762.1	30.09	764.2	74.1	23.4	68	Calm	0.4	0.2			2			0	0	D. clouds	
Calcutta (Alipore)	30.05	763.3	30.08	763.9	69.6	20.9	63	WNW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.66	753.4	30.06	763.6	72.8	22.7	46	Calm	2.7	1.2			0			0	0	Blue sky	
Chittagong	29.98	761.4	30.07	763.7	70.8	21.6	71	WNW	3.5	1.6			0			0	0		
Sibsagar	29.75	755.6	30.10	764.5	66.0	18.9	72	ENE	1.8	0.8			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-l vel. Inches.	Barometer: Reduced to sea-l vel. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.02	762.4	30.45	773.5	50.4	10.2	46	Calm	0	0	.....	.....	1	.....	.....	0.039	1.0	.....	Prof. Giovanni Clodig.
Milan	29.91	759.7	30.46	773.8	40.8	4.9	92	SW	.....	.....	.....	.....	8	SW	.....	0.031	0.8	.....	Prof. Schiaparelli.
Padua	30.34	770.5	30.45	773.5	43.3	6.3	73	NW	4.9	2.2	.....	.....	10	SE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.55	750.6	30.50	774 7	38.1	3.4	88	NNW	3.1	1.4	.....	.....	10	.....	.....	0.181	4.6	.....	Prof. P. F. Denza.
Genoa	30.19	766.7	30.39	771.8	42.3	5.7	68	NE	13.7	6.1	.....	.....	4	N	.....	0.508	12.9	.....	Prof. G. M. Garibaldi.
Mondovi	28.52	724.5	30.55	775.9	34.2	1.2	87	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.40	772.2	30.45	773.5	36.7	2.6	89	NW	8.7	3.9	.....	.....	10	NW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.09	764.2	30.36	771.2	52.2	11.2	55	NE	.....	.....	4	.....	10	S	.....	0.012	0.3	.....	Cav. F. Meucci.
Leghorn	30.24	768.0	30.33	770.3	50.7	10.4	65	NE	13.0	5.8	.....	.....	9	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.09	764.3	30.27	768.9	52.9	11.6	61	N	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.13	765.4	30.40	772.1	54.7	12.6	69	ESE	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.41	746.9	30.41	772.5	48.9	9.4	70	NW	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.75	755.7	29 92	760.0	53.8	12.1	84	ESE	.....	.....	4	.....	10	SE	.....	0.307	7.8	.....	Prof. A. Pacinotti.
Palermo	29.84	757.8	30.09	764.3	56.5	13.6	65	SE	8.7	3.9	.....	.....	10	SE	.....	0	0	.....	Prof. G. Ciaccciatore.
Syracuse	30.13	765.4	30.18	766.5	56.1	13.4	84	ESE	24.8	11.1	.....	.....	10	SE	.....	0.197	5.0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.72	754.9	30.26	768.6	51.6	10.9	62	ESE	4.8	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	773.7	30.48	774.2	35.1	1.7	70	NE	1.8	0.8	.....	3ck	.....	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.30	769.6	30.51	774.9	37.0	2.8	81	NW	1.9	0.8	.....	2ck;c	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.12	765.0	30.20	767.1	32.6	0.3	75	N	7.2	3.2	.....	0	0	.....	.....	0	0	Foggy	The Staff.
Wakayama	30.37	771.4	30.43	772.9	40.5	4.7	59	WNW	6.4	2.9	.....	ck	9cs	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.03	635.7	30.31	769.8	34.7	1 5	46	SE	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.43	620.4	30.27	768.8	47.3	8.5	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.74	755.4	30.00	762.1	63.5	17.5	89	Calm	.....	.....	0	10ck	0	.....	.....	0	0	Very cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.06	585.7	30.24	768.2	42.8	6.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.02	610.0	.....	.....	52.9	11.6	58	E	.....	.....	4	0	0	.....	.....	0	0	Very clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.86	606.0	30.00	761.9	42.4	5.8	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.36	593.4	30.37	771.3	37.6	3.1	46	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.07	611.4	30.16	766 0	46.9	8.3	38	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.92	760.0	29.93	760.3	70.9	21.6	90	W	.....	.....	1	.....	10	.....	W	0	0	Covered	Prof. M. M. Chazaro.
Vera-Cruz	29.94	760.4	29.97	761.1	74.3	23.5	87	Calm	0	0	.....	10k	0	.....	.....	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	22.50	571.4	30.24	768.1	44.6	7.0	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,824.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.27	768.8	30.27	768.8	32.0	0.0	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Groningen	30.30	767.0	30.26	768.4	29.3	— 1.5	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....
Helder	30.21	767.3	30.21	767.3	32 2	0.1	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.26	768.5	30.26	768.5	31.1	— 0.5	90	SSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	30.23	767.7	30.27	768.9	28.9	— 1.7	79	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.77	756.1	29.82	757.5	39.9	4.4	93	S	23.7	10.6	.....	.....	10	.....	.....	1.850	47.0	Raining	.....
Brönö	29.38	746.2	29.42	747.2	41.4	5.2	51	SW	18	8	.....	.....	10	.....	.....	0.059	1.5	.....	.....
Christiana	29.73	755.2	29.88	759.0	37.2	2.9	82	SSW	20	9	.....	.....	1	.....	.....	0	0	.....	.....
Tromsö	28.77	730.7	28.81	731.8	33.8	1.0	81	SW	9	4	.....	.....	10	.....	.....	0.551	14.0	.....	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.3	30.21	767.2	51.1	10.6	72	NNE	1.8	0.8	.....	0	.....	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.04	763.1	30.13	765.4	62.6	17.0	56	SW	3.1	1.4	.....	10	.....	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.83	757.6	30.20	767.0	51.3	10.7	65	NNE	4.9	2.2	.....	1	.....	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.92	759.9	29.99	761.7	56.5	13.6	62	NE	9.8	4.4	.....	3	.....	.....	.....	1.351	34.4	.....	.....

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swel. Height scale 0-9	Sea or swel. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima. Capt. E. C. da Silva Costa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'r.
Bulama, Bissago Islands, Africa	.....	.....	.....	.....	82.0	27.8	.....	ESE	.....	.....	1	.....	2	.....	SE	1	.....	D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd'g.
Sado. Capt. J. A de Brito Capello.																			
Benguela, Benguela	.....	.....	29.87	758.7	78.8	26.0	.....	WNW	.....	.....	2	.....	2	.....	WNW	1	WNW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.34	770.5	61.7	16.5	.....	N	.....	.....	1	.....	5	.....	N	1	.....	D. clouds	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.64	752.9	29.66	753.4	28.8	1.8	96	SSW	9	4	.....	10	.....	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.32	770.0	30.23	767.9	11.5	—11.4	85	S	25	11	.....	10cp	.....	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.80	757.0	30.38	771.6	— 9.6	—23.1	99	NE	0	0	.....	0	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.88	758.9	30.13	765.4	31.1	— 0.5	77	WSW	11	5	.....	0	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.06	738.1	30.17	766.3	—16.6	—27.0	80	NW	2	1	.....	c	.....	10cs	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.74	755.3	30.03	762.8	5.9	—14.5	87	WSW	2	1	.....	10	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.75	755.6	30.42	772.7	32.7	0.4	42	NW	4	2	.....	1c	.....	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.57	751.1	30.10	764.4	4.3	—15.4	69	SSW	0	0	.....	.....	7k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.90	759.5	30.12	765.1	24.1	— 4.4	91	WNW	13	6	.....	10	.....	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.56	750.7	30.13	765.3	32.9	0.5	90	NW	4	2	.....	8s	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.33	719.6	31.15	791.2	—36.2	—37.9	74	Calm	0	0	.....	0	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.44	773.3	30.52	775.1	26.6	— 3.0	63	NNW	4	2	.....	0	.....	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.37	771.4	30.03	778.1	6.4	—14.2	83	WSW	4	2	.....	0	.....	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.61	777.5	30.75	781.1	18.9	— 7.3	92	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	Snowing	Physical Observatory.
St. Petersburg	29.89	759.1	29.90	759.5	31.5	— 0.3	70	SSW	16	7	.....	c	4cs	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.94	735.1	30.68	779.3	16.2	— 8.8	94	NW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Teich, A. M.
Tiflis	28.97	735.7	30.48	774.2	28.9	— 1.7	54	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.98	761.6	30.44	773.1	26.6	— 3.0	72	S	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.99	761.7	30.44	773.1	27.5	— 2.5	65	Calm	0	0	.....	.....	3	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yeniseisk	30.24	768.1	30.58	776.6	—14.6	—25.9	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.03	762.7	30.14	765.5	53.2	11.8	84	E	13.7	6.14	.....	.....	10	.....	.....	0.048	1.21	Raining	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.12	765.0	30.17	766.4	59.7	15.4	52	W	1.9	0.84	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navaran
Burgos, Met. Obs'y	27.20	690.8	.....	.....	45.0	7.2	70	NE	0.9	0.40	.....	0	0	.....	.....	0	0	Clear	Domingo Martiny Perez.
Madrid, Royal Observatory	27.88	708.2	30.15	765.8	50.5	10.3	62	NE	4.5	2.00	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.90	759.5	30.06	763.4	57.2	14.0	71	NNE	4.6	2.06	.....	4	4	SE	.....	0.069	1.74	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.8	30.11	764 7	56.3	13.5	59	SE	4.9	2.2	.....	3	0	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.02	762.4	30.08	764.1	69.3	15.7	84	Calm	0	0	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	30.04	762.9	30.09	764.3	80.9	26.9	84	NNE	.....	.....	.....	.....	10n	.....	E	.....	.....	Drizzling	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.07	763.7	30.17	766.3	55.8	13.2	73	Calm	0	0	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	72.7	22.6	95	SE	0	0	.....	5k	2kn	E	SE	0.040	1.25	D. clouds	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,160.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.28	743.8	29.32	744.8	34.2	1.2	.....	W	.....	.....	6	.....	9	.....	.....	0.079	2.0	.....	
Umea	29.48	748.9	29.56	750.7	36.3	2.4	68	W	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.56	750.9	29.61	752.2	43.5	6.4	98	WSW	.....	.....	2	.....	1	.....	.....	0.106	2.7	.....	
Stockholm	29.84	757.9	30.02	762.4	37.0	2.8	93	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	30.03	762.7	30.09	764.2	32.0	0.0	92	WSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.85	758.2	29.94	760.4	34.9	1.6	72	SW	19.5	8.7	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 53′, W. 79° 32′	.....	.....	29.93‡	760.2‡	78.4	25.8	.....	N	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.93	734.8	30.44	773.2	26.4	— 3.1	100	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.72	729.4	30.46	773.7	24.1	— 4.4	69	SW	.....	.....	1	.....	2	.....	.....	0	0	Clear.	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +7.6 mm.; Thermometer, —5.1 Cent. Relative Humidity, +23 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.65	778.5	37.8	3.2	58	ENE	0	0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.36	771.1	55.0	12.8	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.38	771.7	59.7	10.4	51	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.15	765.8	30.10	766.1	— 2.5	—19.2	.....	NW	9	4.0	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.15	765.8	30.22	767.6	— 1.0	—18.3	94	W	9	4.0	.....	0	0	.....	.....	0.05	1.3	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.03	762.7	30.07	763.8	9.4	—12.6	81	NW	18	8.0	.....	0	3s	.....	.....	0.13	0.8	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.43	772.9	30.65	778.5	— 1.0	—18.3	100	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.19	766.8	— 5.0	- 20.6	.....	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	— 2.8	—19.3	83	NW	20.0	8.9	.....	0	8s	.....	.....	0.05	1.3	Fair	J. McWilliams.
Fredericton, N. B	30.23	767.8	30.30	769.6	2.1	—16.6	69	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.49	749.0	30.48	774.2	—23.5	—30.8	100	SE	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	29.38	746.2	30.58	776.7	17	— 8.3	.....	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	29.93	760.2	30.06	763.5	25.0	— 3.9	80	NW	18	8.0	.....	0	1ks	.....	.....	0.44	11.2	Fair	A. Allison.
Hamilton, Ontario	30.23	767.8	30.64	778.2	19.1	— 7.2	86	NW	.....	.....	2	10cs	0	NW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.25	768.3	30.63	778.0	5.3	—14.8	75	NE	15	6.7	.....	10ks	0	.....	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.91	759.7	29.95	760.7	14.4	— 9.8	82	N	13	5.8	.....	6k	0	N	.....	0.21	5.3	Cloudy	C. H. Rigby.
Montreal, Quebec	30.40	772.1	30.64	778.2	— 1.9	—18.8	70	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	30.72	780.3	30.76	781.3	—30.4	—34.7	100	W	.....	.....	2	0	0	.....	.....	0	0	Clear	J. R. Nrson.
Norwood	29.84	757.9	30.62	777.7	6.7	—14.1	100	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.95	760.7	30.76	781.3	— 4.0	—20.0	65	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.85	758.2	30.69	779.5	5.8	—14.6	75	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.84	757.9	30.59	777.0	20.1	— 6.6	70	NE	11	4.9	.....	10k	0	NE	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.88	758.9	30.58	776.7	21.0	— 6.1	73	NW	6	2.7	.....	.....	10ks	.....	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	30.14	765.5	30.51	774.9	— 5.0	—20.6	63	NW	.....	.....	1	0	0	.....	.....	0.11	2.8	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	30.21	767.3	30.75	781.0	—13.2	—25.1	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. John, N. B	30.08	764.0	30.26	768.6	10	- 12.2	69	NW	25	11.2	.....	0	0	.....	.....	0.07	1.8	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.86	758.4	30.66	778.7	11.2	—11.6	99	NE	14	6.3	.....	.....	10ks	.....	.....	0.17	4.3	Overcast	Miss K. Stewart.
Stratford, Ontario	29.20	741.7	30.61	777.5	13.2	—10.4	94	E	7.0	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.86	758.2	29.89	759.2	18.2	— 7.7	79	NW	12	5.4	.....	0	8ks	.....	.....	0.20	5.1	Fair	T. C. Hill, C. E.
Toronto, Ontario	30.26	768.6	30.69	779.5	12.0	—11.1	73	N	16	7.2	.....	2ck	2ks	NW	.....	0	0	Fair	Magnetic Observatory
Windsor, N. S	29.96	761.0	30.06	763.5	21.0	— 6.1	93	NW	19	8.5	.....	0	4ks	.....	.....	0.08	2.0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.44	747.8	30.61	777.5	16.9	— 8.4	89	NE	10	4.5	.....	0	9ks	.....	.....	0	0	Cloudy	Professor Wolverton.
Yarmouth, N. S	30.09	764.3	30.16	766.1	27.0	— 2.8	72	NW	29	13.0	.....	6k	5s	NW	.....	0.21	5.3	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.30	744.2	29.56	750.8	26	— 3.3	.....	NW	.....	.....	.....	.....	10	.....	.....	0.35	8.9	Overcast	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	29.61	752.1	23.7	— 4.6	.....	NW	.....	.....	4	.....	n	.....	.....	.....	.....	Snowing	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.22	767.6	30.47	773.9	27	— 2.8	64	NW	20	8.9		2k	5s	NW	NW	0	0	Fair..	
Alpena, Michigan	29.96	761.0	30.69	779.5	10	—12.2	79	NE	8	3.6			10n		Calm	Inap.	Inap.	Light snow..	
Atcha, Aleutian Is., Alaska																			
Atlanta, Georgia	29.03	737.3	30.19	766.8	52	11.1	66	E	10	4.5		8ck	0	Calm		0	0	Fair	
Atlantic City, New Jersey	30.38	771.6	30.40	772.1	33	0.6	70	N	10	4.5		0	0			0	0	Clear.	
Augusta, Georgia	30.06	763.5	30.27	768.8	45	7.2	92	Calm	0	0		2ck	2s	NW	NW	Inap.	Inap.	Fair...	
Baltimore, Maryland	30.41	772.4	30.46	773.7	39	3.9	73	N	3	1.3		2c	0	W		0	0	Clear.	
Barnegat, New Jersey	30.34	770.6	30.37	771.4	35	1.7	70	N	26	11.6		2ck	0	W		0	0	Clear	
Bismarck, Dakota	28.19	716.0	30.04	763.0	4	—15.6	100	S	24	10.7			10u		Calm	0.02	0.5	Light snow.	
Boerne, Texas	28.41	721.6	29.68	753.9	63	17.2	100	SE	8	3.6			10ks		SE	0	0	Cloudy	
Boise City, Idaho	30.12	765.0	30.08	764.0	22	— 5.6	79	Calm	0	0		0	8g		Calm	0	0	Fair...	
Boston, Massachusetts	30.18	766.6	30.35	770.9	33	0.6	61	W	14	6.3		0	1s		Calm	0	0	Clear.	
Brackettville, Texas	28.66	728.0	29.69	754.1	64	17.8	94	E	12	5.4			10s			Inap.	Inap.	Cloudy	
Breckenridge, Minnesota	29.24	742.7	30.37	771.4	1	—17.2	100	S	18	8.0			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.84	757.9	29.89	759.2	70	21.1	95	SE	12	5.4		0	0			0	0	Clear.	
Buffalo, New York	29.83	757.7	30.60	772.2	21	— 6.1	71	N	10	4.5			10n		NW	Inap.	Inap.	Light snow..	
Burkes, Arizona																			
Burlington, Vermont	30.27	768.8	30.60	777.2	6	—14.4	76	N	17	7.6		2ck	8ks	N	N	Inap.	Inap.	Cloudy	
Cairo, Illinois	29.90	759.4	30.31	769.9	39	3.9	73	NE	10	4.5			10s		Calm	0	0	Cloudy	
Campo, California	27.35	694.7	29.92	760.0	1	—17.2	71	NE	3	1.3		0	0			0.32	8.1	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	50	10.0	93	NE	16	7.2		Haze	Haze			0	0	Hazy	
Cape Henry, Virginia	30.33	770.4	30.34	770.6	47	8.3	77	NE	20	8.9		2cs	5s	W	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	51	10.6	89	NE	20	8.9		2cs	0	NE		0.02	0.5	Clear.	
Cape May, New Jersey	30.36	771.1	30.39	771.9	37	2.8	71	N	11	4.9		5ck	0	NW		0	0	Fair...	
Castroville, Texas	29.09	738.9	29.77	756.1	66	18.9	95	E	4	1.8			10s			0	0	Cloudy	
Cedar Keys, Florida	30.15	765.8	30.17	766.3	59	15.0	94	E	2	0.9			10s		E	0	0	Cloudy	
Charleston, South Carolina	30.06	763.5	30.12	765.0	55	12.8	87	NE	4	1.8		0	0			0	0	Clear.	
Charlotte, North Carolina	29.39	746.5	30.22	767.6	50	10.0	79	NE	5	2.2		5cs	Sm'e	W	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.40	746.7	30.23	767.8	43	6.1	92	Calm	0	0		2c	Sm'e	W	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	23.58	598.9	29.52	749.8	4	—15.6	74	S	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Chicago, Illinois	29.72	754.9	30.47	773.9	27	— 2.8	76	NE	10	4.5		5k	2s	E	E	0	0	Cloudy	
Cincinnati, Ohio	29.73	755.1	30.42	772.7	36	2.2	61	NE	4	1.8		0	1s		Calm	0	0	Clear	
Cleveland, Ohio	29.74	755.4	30.52	775.2	28	— 2.2	66	N	8	3.6			10ks		NE	0	0	Cloudy	
Coleman City, Texas	28.15	715.0	29.85	758.2	40	4.4	82	NE	8	3.6			10s		Calm	0	0	Cloudy	
Columbus, Ohio	29.57	751.1	30.46	773.7	32	0.0	69	NE	11	4.9		10ck	Sm'e	E	Calm	0	0	Cloudy	
Concho, Texas	29.00	736.6	29.71	754.6	41	5.0	82	NE			1		10s		Calm	0	0	Cloudy	
Corsicana, Texas	29.49	749.0	29.97	761.2	50	10.0	65	Calm	0	0			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.71	754.6	30.40	772.1	20	— 6.7	70	NE	16	7.2			10s		Calm	0	0	Cloudy	
Dayton, Washington T'y					20	— 6.7	85	E			1	0	2s		Calm	0.02	0.5	Clear	
Deadwood, Dakota	25.04	636.0			6	—14.4	35	Calm	0	0			10s		SW	0	0	Cloudy	
Decatur, Texas	28.72	704.1	29.90	759.4	45	7.2	61	E	4	1.8			10s		Calm	0	0	Cloudy	
Denison, Texas	29.18	741.1	30.00	762.0	41	5.0	82	NW	4	1.8		5k	5s	SW	SW	0	0	Cloudy	
Denver, Colorado	24.38	619.2	29.60	751.8	— 2	—18.9	67	S	4	1.8		0	0			0	0	Clear.	
Des Moines, Iowa	29.34	745.2	30.29	769.4	19	— 7.2	85	E	8	3.6			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.84	757.9	30.57	751.1	20	— 6.7	85	NE	10	4.5			10s			0	0	Cloudy	
Dodge City, Kansas	27.28	692.9	29.68	753.9	22	— 5.6	72	SE	12	5.4			10s		E	Inap.	Inap.	Cloudy	
Dubuque, Iowa	29.68	753.9	30.47	773.9	11	—16.7	60	NE	9	4.0			10s		E	0	0	Cloudy	
Duluth, Minnesota	29.83	757.7	30.60	777.2	2	—11.7	72	NE	8	3.6		0	5s		NE	0	0	Fair	
Eagle Pass, Texas	29.06	738.1	29.76	755.9	67	19.4	84	SE	6	2.7			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.18	766.6	30.25	768.3	13	—10.6	62	N	22	9.8		5k	5s	N	N	0	0	Cloudy	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.81	757.2	30.58	776.7	27	— 2.8	64	NE	10	4.5			10ks		N	0	0	Cloudy	
Escanaba, Michigan	29.93	760.2	30.68	779.3	3	—16.1	46	N	3	1.3		0	5s		N	0	0	Fair...	
Florence, Arizona	28.43	722.1	30.03	762.7	34	1.1	90	Calm	0	0			10n		S	0.75	19.1	Light snow.	
Fort Apache, New Mexico																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.79	705.8	29.78	756.4	3	—16.1	86	Calm	0	0		0	0			0	0	Clear.	
Fort Custer, Montana	26.65	676.9			- 13	—25.0	100	SE	2	0.9		0	0			0	0	Clear.	
Fort Davis, Texas	24.92	633.0	29.88	758.9	43	6.1	75	SW	4	1.8		0	0			0	0	Clear.	
Fort Gibson, Indian Ter	29.45	748.0	30.00	762.0	42	5.6	83	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Grant, Arizona	24.88	631.9	29.68	753.9	26	— 3.3	88	NW	4	1.8			10n		Calm	0.33	8.4	Heavy snow	
Fort Griffin, Texas	28.66	728.0	29.96	761.0	38	3.3	72	N	4	1.8			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.11	688.6			— 4	—20.0	64	SW	3	1.3		0	0			0	0	Clear.	
Fort McKavett, Texas	27.56	700.0	29.48	748.8	46	7.8	77	E	8	3.6			10s		E	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.72	729.5	29.87	758.7	32	0.0	100	N	6	2.7			Fog		Calm	0	0	Foggy	
Fort Stevenson, Dakota	28.15	715.0			4	—15.6	87	SE	26	11.6			10s		SE	0	9	Clear.	
Fort Verde, Arizona					18	— 7.8	68	SE			1	10cs	0	SW		0.49	12.4	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.02	711.7	29.57	751.1	50	10.0	72	S	12	5.4			10ks		S	0.02	0.5	Cloudy	
Galveston, Texas	29.98	761.5	30.02	762.5	64	17.8	89	E	11	4.9		5cs	0	NW		0	0	Fair...	
Graham, Texas	28.82	732.0	29.80	756.9	37	2.8	71	E	2	0.9			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.86	758.4	30.58	776.7	18	— 7.8	84	E	12	5.4			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.00	736.6	29.97	761.2	39	3.9	82	SE	6	2.7			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.55	750.6	30.37	771.4	34	1.1	61	NE	8	3.6			10ks		Calm	0	0	Cloudy	
Indianola, Texas	29.95	760.7	29.98	761.5	67	19.4	89	SE	7	3.1			10s		SE	0	0	Cloudy	
Jacksboro, Texas	28.74	730.0	29.90	759.4	38	3.3	72	N	4	1.8			10s		N	0	0	Cloudy	
Jacksonville, Florida	30.15	765.8	30.18	766.6	63	17.2	83	NE	7			5k	0	NE		0	0	Fair...	
Keokuk, Iowa	29.61	752.1	30.27	768.8	26	— 3.3	88	E	17	7.6			10s		Calm	0	0	Cloudy	
Key West, Florida	30.07	763.8	30.10	764.5	66	18.9	79	NE	5	2.2		2k	0	NE		0	0	Fair...	
Kittyhawk, North Carolina	30.30	769.6	30.32	770.1	50	10.0	93	NE	22	9.8		0	Fog		Calm	0	0	Clear.	
Knoxville, Tennessee	29.23	742.4	30.27	768.8	42.5	5.8	87	NE	3	1.3		0	5ks		Calm	0	0	Fair	
La Crosse, Wisconsin	29.67	753.6	30.49	774.4	10	—12.2	58	E	1	0.4		Haze	0	Calm		0	0	Clear.	
La Mesilla, New Mexico	25.75	654.0	29.90	759.4	39	3.9	38	SW	2	0.9		0	8s		SW	0	0	Cloudy	
Laredo, Texas	29.50	749.3	29.84	757.9	65	18.3	78	S	14	6.3		2ck	0	W		0	0	Clear.	
Leavenworth, Kansas	29.22	742.2	30.11	764.8	28	— 2.2	88	E	13	5.8			10n			0.01	0.3	Sleeting	
Lewiston, Idaho																			
Little Rock, Arkansas	29.81	757.2	30.19	766.8	47	8.3	77	E	6	2.7		10cs	0	W		0	0	Cloudy	
Los Angeles, California	29.65	753.1	30.01	762.2	34.5	1.4	61	N	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.74	755.4	30.33	770.4	35	1.7	70	NE	11	4.9		2ck	6s;sm	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.68	753.9	30.40	772.1	41	5.0	82	NW				2ck	0	W		0	0	Clear.	
Madison, Wisconsin	29.41	747.0	30.51	774.9	12	—11.1	61	NE	12	5.4			10s		Calm	0	0	Cloudy	
Marquette, Michigan	29.86	758.4	30.64	778.2	15	— 9.4	82	S	4	1.8			10s		Calm	0.06	1.3	Cloudy	
Mason, Texas	28.23	717.0	29.97	761.2	54	12.2	67	E	5	2.2			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.84	757.9	30.20	767.1	42	5.6	75	NE	6	2.7		8cs	0	Calm		0	0	Fair...	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.73	755.1	30.63	778.4	21	— 6.1	71	E	18	8.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.12	765.0	30.16	766.1	47	8.3	95	NW	4	1.8	.....	5c	Sm'e	W	.....	0	0	Fair	
Montgomery, Alabama	29.96	761 0	30.21	767.3	45	7.2	88	N	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Morgantown, West Virginia	29.42	747.3	30.48	774.2	35	1.7	70	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.49	596.6	29.85	758.2	— 5	—20.6	100	NW	72	32.2	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.71	754.6	30.26	768.6	46	7.8	69	Calm	0	0	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	30.26	768.6	30.38	771.6	32	0.0	79	NW	7	3.1	.....	5cs	Haze	W	Calm	0	0	Fair	
New London, Connecticut	30.28	769.1	30.34	770.6	34	1.1	57	NW	6	2.7	.....	1cs	0	W	.....	0	0	Clear	
New Orleans, Louisiana	30.08	764.0	30.14	765.5	54	12.2	79	E	4	1.8	.....	5c	Sm'e	Calm	Calm	0	0	Smoky	
Newport, Rhode Island	30.28	769.1	30.33	770.4	34	1.1	70	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	47	8.3	85	NE	.....	.....	1	5c	0	W	.....	.....	.....	Fair	
New York, New York	30.22	767.6	30.41	772.4	34	1.1	61	NW	6	2.7	.....	5cs	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	30.31	769.9	30.37	771.4	45	7.2	84	N	8	3.6	.....	8ck	10s	Calm	.....	0	0	Fair	
North Platte, Nebraska	26.97	685.0	29.75	755.6	8	—13.3	78	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.18	766.6	30.22	767.6	28.0	— 2.2	94	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.94	735.1	30.13	765.3	15	— 9.4	82	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.27	768.8	30.62	777.7	16	— 8.9	83	NE	24	10.7	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Pembina, Dakota	29.42	747.3	30.38	771.6	—18	—25.0	100	S	15	6.7	.....	.....	Haze	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.15	765.8	30.19	766.8	49	9.4	78	NE	7	3.1	.....	2cs	0	NW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.36	771.1	30.41	772.4	35	1.7	70	N	10	4.5	.....	1cs	0	Calm	.....	0	0	Clear	
Phœnix, Arizona	28.87	733.3	30.76	781.3	35	1.7	80	N	1	0.4	.....	.....	10s	.....	Calm	1.16	29.5	Cloudy	
Pike's Peak, Colorado	17.09	434.1	29.30	744.2	— 2	—18.9	100	SW	22	9.8	.....	.....	10n	.....	SW	Inap.	Inap.	Light snow.	
Pilot Point, Texas	29.16	740.7	30.00	762.0	46	7.8	76	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Pioche, Nevada	23.61	599.7	29.38	746.2	9	—12.8	57	N	9	4.0	.....	0	0	.....	.....	0.05	1.3	Clear	
Pittsburg, Pennsylvania	29.63	752.6	30.50	774.7	31	— 0.6	69	NE	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.85	758.2	30.59	777.0	18	— 7.8	84	N	9	4.0	.....	.....	10ks	.....	N	0	0	Cloudy	
Portland, Maine	30.22	767.6	30.27	768.8	30	— 1.1	57	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.16	766.1	30.24	768.1	33	0.6	89	SE	4	1.8	.....	.....	10n	.....	SE	0.02	0.5	Sleeting	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	81	NE	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.46	621.3	29.82	757.4	26	— 3.3	88	S	.....	.....	1	.....	10n	.....	S	0.08	2.0	Light snow.	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	60	15.6	88	N	10	4.5	.....	0	2s	.....	NE	0	0	Fair	
Red Bluff, California	29.75	755.6	30.13	765.3	30	— 1.1	68	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.67	753.6	29.88	758.9	66	18.9	95	E	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.89	759.2	30.50	776.2	20	— 6.7	85	[illegible]	11	4.9	.....	.....	10n	.....	N	Inap.	Inap.	Light snow.	
Roseburg, Oregon	29.66	753.4	30.26	768.6	28	— 2.2	88	NE	1	0.4	.....	5c;k	2s	Calm ; N	N	0	0	Fair	
Sacramento, California	30.02	762.5	30.10	764.5	31	— 0.6	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.68	753.9	30.29	769.4	32	0.0	79	E	13	5.8	.....	.....	10s;sm	.....	Calm	0	0	Cloudy	
St. Paul, Minnesota	29.55	750.6	30.48	774.2	8	—13.3	57	E	12	5.4	.....	.....	10s	.....	E	0	0	Cloudy	
Salt Lake City, Utah	25.39	644.9	29 72	754.9	15	— 9.4	48	NE	2	0.9	.....	8k	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.20	741.7	29.77	756.1	66	18.9	95	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
San Diego, California	29.97	761.2	30.05	763.3	34	1.1	79	NE	10	4.5	.....	0	0	.....	.....	0.12	3.0	Clear	
Sandusky, Ohio	29.82	757.4	30.54	775.7	31	— 0.6	69	NE	17	7.6	.....	.....	10ks	.....	NE	0	0	Cloudy	
Sandy Hook, New Jersey	30.38	771.6	30.41	772.4	36	2.2	61	N	26	11.6	.....	5c	0	N	.....	0	0	Fair	
San Francisco, California	30.04	763.0	30.10	764.5	41	5.0	45	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.96	583.2	29.50	749.3	8	—13.3	55	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Savannah, Georgia	30.13	765.3	30.23	767.8	53	11.7	93	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.86	758.4	30.08	764.0	59	15.0	82	SE	4	1.8	.....	0	5s	.....	SW	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.21	767.3	30.24	768.1	52	11.1	93	N	8	3.6	.....	2c	0	Calm	.....	0	0	Fair	
Socorro, New Mexico	25.06	636.5	29 12	739.6	33	0.6	51	S	18	8.0	.....	.....	10s	.....	W	0	0	Cloudy	
Springfield, Illinois	29.64	752.8	30.36	771.1	29	— 1.7	78	E	15	6.7	.....	.....	10s	.....	E	0.01	0.3	Cloudy	
Springfield, Massachusetts	30.25	768.3	30.39	771.9	31	— 0.6	58	NW	7	3.1	.....	0	2ks	.....	NW	0	0	Fair	
Stockton, Texas	26.75	679.4	29.75	755.6	52	11.1	23	S	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.28	769.1	30.34	770.6	30	— 1.1	89	NW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.79	756.7	30.53	775.4	25	— 3.9	75	NE	24	10.7	.....	.....	10s	.....	NE	0	0	Cloudy	
Tucson, Arizona	27.45	697.2	30.00	762.0	33	0.6	79	Calm	0	0	.....	.....	10s	.....	Calm	0.44	11.2	Cloudy	
Umatilla, Oregon	29.87	758.7	30.40	772.1	25	— 3.9	87	Calm	0	0	.....	.....	10ks	.....	N	0	0	Cloudy	
Uvalde, Texas	28.92	734.6	29.72	754.9	66	18.9	89	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.88	758.9	30.15	765.8	52	11.1	93	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.92	607.6	29.40	746.7	3	—16.1	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.68	753.9	30.07	763.8	31	— 0.6	89	SE	2	0.9	.....	8k	0	S	.....	0	0	Fair	
Washington, D. C.	30.32	770.1	30.44	773.2	36	2.2	80	N	5	2.2	.....	1c	0	N	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	78	NW	.....	.....	1	0	5s	.....	W	0.20	5.1	Clearing	
Wilmington, North Carolina	30.10	766.1	30.34	770.6	50	10.0	86	NE	4	1.8	.....	5c	Fog	Calm	Calm	0	0	Fair	
Winnemucca, Nevada	25.54	648.7	29.90	759.4	5	—15.0	75	SW	3	1.3	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Wood's Holl, Massachusetts	30.27	768.8	30.32	770.1	33	0.6	80	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.89	733.8	30.34	770.6	2	—16 7	72	E	15	6.7	.....	.....	10s	.....	E	0	0	Cloudy	
Yuma, Arizona	29.83	757.7	29.99	761.7	37	2.8	71	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.7	64	17.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	73	22.8	86	Calm	0	0	.....	0	5cs	.....	.....	0	0	Fair	James Gall.
Navassa, W. I.	29.82	757.4	29.90	759.4	77	25.0	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	91	E	.....	.....	2	.....	10n	.....	.....	3.80	98.04	Raining	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.37	746.0	29.93	760.2	78	25.6	84	Calm	.....	.....	0	.....	8k	.....	.....	0.04	1.0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.02	762.5	30.05	763.3	74	23.3	81	N	6.8	3.0	.....	0	2s	.....	N	0	0	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.12	765.0	30.17	766.3	—22.0	—30.0	.....	SW	16	7.2	.....	4k	4s	NW	NW	0.22	5.6	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549(?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2 09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in , or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NavyYard,Pensacola, Fla.	30.24‡	768.1‡	.....	.....	50	10.0	86	N	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
NavyYard,Portsmouth,N.H	29.80‡	756.9‡	.....	.....	26	— 3.3	75	WNW	4	1.8	.....	.....	2	.....	.....	.....	.....	.....	.....	Pleasant	
Alaska, S. 27° 53′ W. 71° 53′...*	29.94‡	760.5‡	.....	.....	66	18.9	79	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Colorado, New York, N. Y.	30.34‡	770.6‡	.....	.....	52	11.1	.....	WNW	2	0.9	.....	.....	8	.....	WNW	0	0	.....	.....	Clear?	
Constitution, N. 14° 24′, W. 72° 28′...	29.96‡	761.0‡	.....	.....	77	25.0	82	ENE	.....	.....	5	.....	1	.....	ENE	.....	.....	Smooth	E	Clear	
Enterprise. Smyrna, Turkey	30.53‡	775.4‡	.....	.....	47	8.3	77	N	.....	.....	2	.....	1	.....	N	.....	.....	Mod'ate	.....	Clear.	
Franklin, Off Navy Yard, Norfolk,Va.	30.35‡	770.9‡	.....	.....	46	7.8	84	NE	6	2.7	.....	.....	5	.....	W	0	0	.....	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡	.....	.....	39	3.9	90	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Key West, Fla	30.11‡	764.8‡	.....	.....	67	19.4	84	NE	.....	.....	2	.....	5	.....	NE	.....	.....	Smooth	.....	Fair	
Lackawana, N. 35° 28′, W. 133° 50′...†	30.41‡	772.4‡	.....	.....	55	12.8	93	NNE	.....	.....	4	.....	8	.....	NE	.....	.....	Mod'ate	NNE	Fair	
Marion, S. 18° 49′, W. 38° 17′...	30.02‡	762.5‡	.....	.....	81	27.2	74	E	.....	.....	2	.....	8	.....	E	Light	Light	Smooth	E	Fair	
Michigan, Erie, Pa.	30.50‡	774.7‡	.....	.....	26	— 3.3	69	NE	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.48‡	774.2‡	.....	.....	41	5.0	74	E	.....	.....	2–4	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡	.....	.....	58	14.4	82	NE	4	1.8	..	.....	8?	.....	NE	0	0	.....	.....	Clear?	
Nipsic, Barcelona,Venezuela,S A.	29.98‡	761.5‡	.....	.....	75	23.9	81	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Light	.....	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡	.....	.....	67	19.4	95	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Palos, Tientsin, China	30.78‡	781.8‡	.....	.....	18	— 7.8	100	E	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.	30.44‡	773.2‡	.....	.....	38	3.3	81	NE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	67	19.4	89	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Off Ellis I'd., N. Y. Harbor	30.37‡	771.4‡	.....	.....	35	1.7	61	NNW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	30.33‡	770.4‡	.....	.....	59	15.0	59	ESE	.....	.....	4	.....	8	.....	S	.....	.....	.....	.....	Hazy	
Ranger. N. 37° 32′, W. 144° 30′...	30.44‡	773.2‡	.....	.....	54	12.2	87	SE	.....	.....	3	.....	10	.....	S	.....	.....	Mod'ate	.....	Cloudy	
Richmond, Hong-Kong, China	30.28‡	769.1‡	.....	.....	63	17.2	67	E	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.	
Rio Bravo, Brownsville, Texas... †	30.03‡	762.7‡	.....	.....	69	20.6	95	SE	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	30.44‡	773.2‡	.....	.....	39	3.9	82	NW	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	29.88‡	758.9‡	.....	.....	73	22.8	67	NNE	.....	.....	4	.....	5	.....	NNE	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.36‡	771.1‡	.....	.....	35	1.7	90	N	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Clear.	
Swatara, N. 40° 23′, W. 48° 13′...	29.83‡	757.7‡	.....	.....	63	17.2	83	SW	.....	.....	7–8	.....	10	.....	SW	.....	.....	Rough	SW	Squally	
Tennessee, Norfolk, Va.	30.32‡	770.1‡	.....	.....	45	7.2	92	NE	8	3.6	.....	.....	7	.....	Calm	0	0	.....	.....	D. clouds	
Trenton, Port Mahon, Minorca, Med.	30.02‡	762.5‡	.....	.....	56	13.3	81	E	.....	.....	4	.....	10	.....	E	Blank	Blank	.....	.....	Cloudy	
Tuscarora, La Union, S. Salvador.	29.91‡	759.7‡	.....	.....	78	25.6	69	NW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.36‡	771.1‡	.....	.....	30	— 1.1	36	NW	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wyoming, Villafranca, France	30.29‡	769.4‡	.....	.....	53	11.7	80	ENE	.....	.....	1–3	.....	5	.....	E	.....	.....	Mod'ate	E	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE MARINE SERIES.																			
S. S. Caspian, M. Trocks....																			W. E. Jago.
S. S. Circassian,.....																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian.....																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 44° 15', W. 48° 19'...		29.15‡	740.4‡	53	11.7		WSW			7		10		W		Very Heavy	WSW	Light rain...	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Philadelphia, Pa.....		30.70‡	779.8‡	39	3.6		NNW			2		1		NW	0			Clear.	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.....																			
S. S. Braunschweig, C. Undutsch....																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 50° 39', W. 0° 40'.....		30.26‡	768.6‡	46.0	7.8	69	SSE			3		2		S	0	Smooth	SSE	Clear.	S. Risius.
S. S. Ohio, G. Meyer, Off Wolf-trap L.H., N. 37°23', W. 76°11'		30.40‡	772.1‡				NE			4		2		NE		Smooth	NNE	Fair	

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 17', E. 178° 05'....†		30.01‡	762.2‡	61	16.1	82	WSW			5		2		WNW		Heavy	NW	Clear	D. A. Joyce.
S. S. Gaelic, Davidson, N. 40° 16', E. 157° 32' ...†.		29.90‡	759.4‡	37	2.8	....	W			5	ck		W		0	Rough	WNW	Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			
S. S. Oregon.....																			J. M. Lachlan.

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander..																			
S. S. Idaho, E. Alexander...																			
S. S. Orizaba.....																			
S. S. State of California, G. Debney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Esquimault Harbor, Vancouver I'd.		30.14‡	765.5‡	29	— 1.7		NNW			1		10						Snowing	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China		30.22‡	767.6‡	65	18.3	84	E			3		10			0	Smooth		Threatening	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. O. Ghest. N. 38° 19′, W. 125° 53′		30.08‡	764.0‡				NE			6				E		Con-fused	N	Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson N. 41° 56′, W. 61° 37′		29.89‡	759.2‡	45	7.2		WNW	30	13.4			2		WNW	6 hrs	Mod'ate	WNW	Clear	
S. S. Nederland, S. Stokes. N. 48° 02′, W. 27° 00′		29 78‡	756.4‡	49	9.4		WNW			4		2		W	Blank	High	N	Fine	J. Farmer & W. Apetan.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																		J. W. Jennings.
S. S. Britanic, H. Perry																		J. Jones.
S. S. Celtic, B. Gleadell																		
S. S. Republic, P. J. Irving																		G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																		Mehaffey.
Schr. Addie Fuller, J. Jorgensen																		J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																		L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 4° 20′, E. 36° 40′		29.91‡	759.7‡	61.6	16.4		NW			4		2		NW		Long	WSW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.†		30.20‡	767.1‡	74	23.3		NE			5		2		NE	Show-ers	Smooth	SE	Clear	
Iron Cross, W. Randall, N. 51° 0′, W. 8°00′		29 85‡	758.2‡	50	10.0	93	S			6		8	SW	S	0	Mod'ate	SW	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

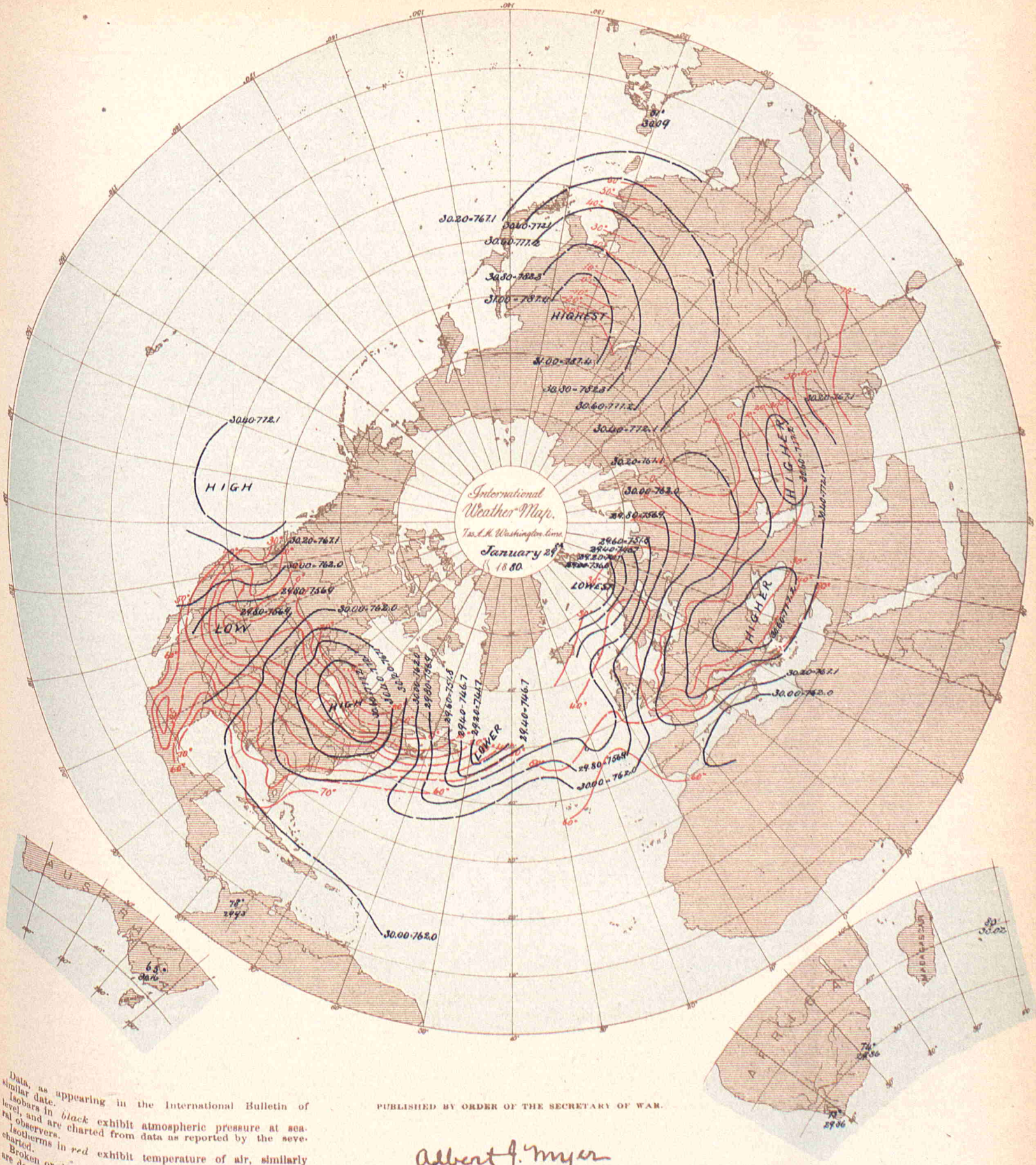
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 30, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.17	766 2				NE			1		2			0	0	Fair	
Nemours			30.21	767.2	61.7	16.5	89	WNW			1		8			0.169	4.3	Very cloudy	Kesxuche.
Algiers			30.08	764.1	55.4	13.0	83	NNW			3		10			0.555	14.1	Covered	Tourilliere.
La Calle			30.04	763.0	57.0	13.9	17	S			3		4			0.039	1.0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.07	763.6															Herbin.
Tebessa			30.06	763.5															Watrin.
Geriville			30.04	762.9	41.2	5.1	87	SSW			1		10			0.594	15.1	Covered	Brugnlaux.
Laghouat								N			5		10			0.472	12.0	Covered	Bertrand.
Biskra			30.10	764.5	54.7	12.6	50	NNE			5		10			0	0	Covered	Chanvaux.
			29.92	760.0	55 0	12.8	98	WNW			1		9			0.433	11.0	Covered	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.07	761.3	30.58	776.6	20.5	— 6.4	100	NE			2		7			0	0	Foggy	Prof. Ivan Stozir
Cracow, I. R. Observatory	29.78	756.5	30.61	777.4	29.8	— 1.2	76	WSW	0	0			1			0	0		Dr. Wierzbicki.
Eperies	29.62	752.4	30.58	776.8	21.6	— 5.8	74	Calm			0		0			0	0		Julius Mikolik.
Gratz	29.23	742.5	30.58	776.8	27.3	— 2.6	77	S			2		0			0	0		Andreas Rospini.
Hermannstadt	29.10	739.0	30.65	778.5	22.8	— 5.1	76	NNW			1		0			0	0		Prof. A. Gottschling
Kremsmünster	29.04	737.6	30.49	774.4	24.8	— 4.0	95	NE			1		5			0	0		Prof. C. Wagner.
Lemberg	29.49	749.1	30.54	775 6	36.5	2.5	58	S			1		0			0	0		Dr. T. Stanecki.
Polt	30.30	769.7	30.42	772.7	44.2	6.8	94	NW			1		Fog			0	0		.R.Hydrographic Office
Szathmar	30.09	764.2	30.58	776.8	34.8	1.4	83	E			2		1			0	0		Pet. Pancsics, S. J.
Szegedin	30.25	768.3	30.55	776.0	26.4	— 3.1	76	Calm			0		3			0	0		Karl Stancel.
Trieste	30.35	770.8	30.45	773.4	41.7	5.4	100	Calm			0		10			0	0	Foggy	P. Busin.
Vienna	29.79	756.7	30.53	775.5	28.0	— 2.2	77	SE			1		0			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory
Furnes	30.11	764.9	30.32	770.1	47.8	8.8	45	S			1		0			0	0		M. E. de Cae.
Maeseyck	30.28	769.1	30.30	769.7	45.0	7.2	61	S			2		0			0	0		M. Pierrot.
	30.23	767.8	30.35	771.0	40.5	4.7	67	ESE			0		0			0	0		

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. L. & E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.59	751.6	29.69	754.1	46.8	8.2	.....	SSW	29	13.0	.....	.....	9	.....	.....	0	0	Squally	W. Boswell.
Ardrossan	29.74	755.4	29.76	755.9	47	8.3	.....	SSW	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	G.Carrick.
Armagh, (Observatory)	29.56	750.8	29.80	756.9	49.0	9.4	.....	NW	16	7.2	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.99	761.7	43	6.1	.....	SE	24	10.7	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.47	748.5	30.00	762.0	41.1	5.1	.....	S	6	2.7	.....	.....	7	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.59	751.6	29.99	761.7	51.2	10.7	54	NW	.....	.....	2	.....	6	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.06	763.5	30.14	765.5	47.0	8.3	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. Todd.
Cardington	.....	.....	30.14	765.5	44.4	6.9	.....	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham (School M. E.)	30.08	764.0	30.21	767.3	50.1	10.1	.....	S	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	W. Gibson, Sapper, R.E.
Donaghadee	29.76	755.9	29.80	756.9	48	8.9	.....	SSW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	J. Mac Gowan.
Dover	30.22	767.6	30.25	768.3	41	5.6	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	29.85	758.2	30.08	764.0	47.8	8.8	.....	SSE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.39	695.7	29.60	751.8	92.8	33.8	.....	W	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.76	755.9	50	10.0	.....	SSW	.....	.....	5	.....	4	.....	.....	0	0	Blue sky	Prof. A. H. Curtis, Corp'l S. Cordue, A.H.C
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow, (Observatory)	29.54	750.3	29.75	755.6	47.3	8.5	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean.
Great Yarmouth	30.19	766.8	30.19	766.8	39	3.9	.....	S	.....	.....	3	.....	3	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.03	762.7	30.21	767.3	49.7	9.8	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	The Staff, for G.B.Airy.
Guernsey	29.94	760.5	30.16	766.1	45	7.2	.....	SSE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Dr. S.E Hoskins, F.R.S.
Helston	30.19	766 8	30.32	770.1	49	9.4	.....	S	.....	.....	6	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.93	760.2	46	7.8	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.93	760.2	30.23	767.8	43.2	6.2	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.17	766.3	30.21	767.3	42.8	6.0	.....	SSW	12	5.4	.....	.....	0	.....	.....	.....	.....	Blue sky	The Met'g'l Office.
Leicester (Museum)	29.86	758.4	30.12	765.0	44.0	6.7	.....	S	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.03	762.7	61	16.1	.....	E	.....	.....	3	.....	9ks	.....	.....	.....	.....	Overcast	A. King.
Nairn	29.45	748.0	29.54	750.3	51	10.6	.....	WSW	.....	.....	5	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	72.5	22.5	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.93	760.2	30.12	765.0	45.8	7.7	.....	SSW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.56	750.8	30.10	764.5	46.6	8.1	.....	S	.....	.....	3	.....	0	.....	.....	0	0	Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.91	759.7	30.17	766.3	46	7.8	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	30.03	762.7	30.11	764.8	48.5	9.2	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Misty	John Merrifield.
*Roche's Point	29.77	756.1	29.86	758.4	49	9.4	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	29.83	757.7	29.99	761.7	46	7.8	.....	SSE	.....	.....	6	.....	7	.....	.....	.....	.....	Gloomy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.52	749.8	46.8	8.2	.....	SW	23	10.3	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.45	773.4	30.52	775.2	41.6	5.3	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	29.80	756.9	30.09	764.3	46.2	7.9	.....	SW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	46.9	8.3	88	SW	.....	.....	8	.....	10	.....	.....	0.084	2.13	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.00	762 0	42.9	6.1	.....	S	9	4.0	.....	.....	5	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	44.8	7.1	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.00	762.0	30.08	764.0	49	9.4	.....	S	.....	.....	7	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia (Observatory)	29.81	757.2	29.83	757.7	50.7	10.4	.....	WSW	10	4.5	.....	.....	7	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.92	760.0	29.96	761.0	73	22.8	61	S	15.4	6.9	.....	9	10cs	.....	.....	0	0	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.46	646.7	.....	.....	85	29.4	.....	NW	.....	.....	.....	6k	8kn	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	70	21.1	.....	W	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restairig Park) Sc'tl'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.85	758.2	30.04	763.0	80.1	26.7	72	E	27.5	12.3	.....	4	6	.....	E	0.15	3.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.99	761.7	30.08	764.0	65.5	18.6	62	ESE	12	5.4	.....	.....	0	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.50	749.3	48	8.9	.....	SSW	.....	.....	6	.....	10	.....	.....	0.4	10.	.....	.....
North Unst, Shetland Is	.....	.....	29.52	749.8	.....	.....	.....	S	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points and the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,209 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. Alert, Off Snug Bay, Patagonia	.....	.....	Overcast	Capt. A. J. Brown.
City of Agra, S. 56° 51′, W. 66° 30′	.....	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 38° 16′, W. 33° 45′	.....	.....	Foggy	Capt. W. M. Grieve.
Barque Commewyne, N. 47° 05′, W. 16° 40′	.....	.....	D. clouds	Capt. Jas. Buchan.
Bute Fylde, N. 37° 10′, W. 34° 55′	.....	.....	Overcast	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 32′, W. 77° 36′	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 7° 00′, E. 86° 07′	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S Strathleven, N 49° 00′, W. 5° 00′	.....	.....	Misty	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	Capt. C. M. Dobson.
S. S Ethiopia	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra,	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	Capt. H. L. Fox.

Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloudd. Amount. Up'er 0—10.	Cloudd. Amount. L'w'r 0—10.	Cloudd. Direction. Upper. From—	Cloudd. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
San José	26.21	665.7	29.03	760.2	61.7	16.5	84	SE			2		1d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,767 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.36	771.1	30.41	772.3	30.2— 1.0	80	S			2		0							
Faröe	30.28	769.1	30.30	769.6			S			4		0							
Godthaab (Greenland)	28.86	733.1	28.91	734.2	— 9.2—22.9	100	NE			6		10							
Stykkisholm (Iceland)	28.29	718.6	28.34	719.7	38.5	3.6	90	SE			9		10						Snowing
Thorshavn (Faröe)	29.15	740.3	29.18	741.2	45.3	7.4	82	SW			5		4						Raining
Vestervig	30.13	765.2	30.24	768.0	33.6	0.9	79	S			6		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.75	755.7	30.30	769.7	47.3	8.5	72	S			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.21	767.3	30.33	770.3				E			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.06	763.4	30.32	770.2	43.9	6.6	51	S			1					0	0		Klein, Commandant.
Avignon, Normal School	30.21	767.4	30.29	769.4	50.0	10	42	N			1		2			0	0	Light clouds	Giraud, Director.
Bar-sur-Seine	29.75	755.7	30.34	770.7	34.7	1.5	74	S			1		5cn			0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	30.04	763.0	30.32	770.1	38.7	3.7	41	E			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.44	747.7	30.39	771.8	32.0	0		NE			1		5		NE	0	0	Cloudy	A. Carré, Director.
Bordeaux	30.01	762.2	30.20	767.2	55.9	13.3	50	SSE			2	2c				0	0	Almost clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.47	748.6	30.39	772.0	34.9	1.6	96	N			1	5c		S		0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.71	754.6	30.32	770.1	42.8	6	97	N			1		10		N	0	0	Lightly cov'd	M. Gence, Director.
Brest, Naval Observatory	29.93	760.1	30.17	766.2	51.1	10.6	84	SSW			1		2		S	0	0		Ch. de Rermaree, Dir
Caen, Normal School	30.15	765.9	30.23	767.8	45.0	7.2	85	ESE			2		0			0	0	Very clear	M. Bietrin, Director.
Carcassonne, N. School	29.81	757.1	30.23	767.7	53.2	11.8	69	E			1		10	E	E	0.020	0.5	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	30.02	762.4	30.35	770.9	40.1	4.5	81	E			1		0					Clear	Jadot, Director
Chartres, Normal School	29.64	752.9	30.21	767.4	52.5	11.4		E			1		0			0	0	Light mist	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.88	733.5	30.25	768.4	51.3	10.7	55	N			1	c				0	0		Alluard, Director.
Commercy, Normal School	29.48	748.7	30.40	772.2	31.8— 0.1		89	E			1		1		E	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.14	740.1	30.28	769.1	55.8	13.2	36	E			3		8		E	0	0	Covered	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.53	750.1	30.34	770.7	33.4	0.8		SSE			1		10n			0	0	Clear	Allard, Director.
La Roche-sur-Yon, N. Sch'l	30.05	763.2	30.26	768.7	50.7	10.4	84	E			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.98	761.5	30.30	769.5	46.4	8	72	ESE			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.39	746.4	30.34	770.5	32.2	0.1	63	N			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.11	764.7	30.22	767.5	46.0	7.8	75	SE			1		0			0.012	0.3	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.69	754.1	30.34	770.7	33.8	1.0	79	E			1				E	0	0		Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.94	760.4	30.21	767.2	61.3	16.3	31	ESE			2		0		ESE	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.23	742.5	30.35	770.8	30.6— 0.8		92	NW			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	24.93	633.3	30.25	768.3	32.5	0.3	85	E	3.8	1.7			10			0.185	4.7	Snowing	M. Cave, for Dr. Fines.
Nice	30.21	767.2	30.24	768.1	61.5	16.4	41	E			6		5	NE	E	0	0	Cloudy	Capt. Boissiere, Director.
Nîmes, Normal School	30.05	763.3	30.26	768.6	54.9	12.7	59	NE			1				NE	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.04	762.9			46.6	8.1	55	S			1		0			0	0		Marié Davy, Director
Perpignan	30.16	766.1	30.28	769.0	49.6	9.8	89	E	3.8	1.7			10		ESE	0.098	2.5	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.56	573.1			33.3	0.7									S	0	0		M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.22	742.2	30.33	770.3	42.1	5.6	66	N			1		5			0	0	Cloudy	M. Tallieu
Puy de Dome (Summ') Obs	25.33	643.3			40.1	4.5	52	E			2		5			0	0	½ covered	Alluard, Director.
Rochefort, Naval Obs'y	30.21	767.4	30.24	768.2	52.9	11.6	76	ESE			2		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.19	766.9	30.28	769.1	45.0	7.2	59	SE			1		0			0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.16	766.0	30.19	766.8	50.7	10.4	68	SSE			3		0			0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	30.16	766.0	30.32	770.2	45.5	7.5	57	W			1		0			0	0	Clear	E. Renou, Director.
Tarbes, Normal School	29.09	738.9	30.18	766.6	53.6	12	53	S			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.55	750.5	30.28	769.0	54.7	12.6	56	SE			4		2	SE		0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	30.08	764.0	30.28	769.0	42.8	6.0	67	SSW			1		0			0	0	Clear	M. de Tastes.
Versailles, Observatory	29.81	757.1	30.30	769.6	47.8	8.8	55	S			1		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.56	750.7	30.30	769.6	39.2	4	91	ESE			1		0			0	0	Clear	Nicot, Director.
Sub-Series.																			
Fort de France, Martinique	29.97	761.3	30.00	762.0	72.0	22.2										0.24	6.		L'Abbé Marchesi
Zi-Ka-Wei (near Shanghai	30.47	773.9	30.50	774.6	39.6	4.2	85	ENE	7.2	3.2		9ck		W		0	0	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms, or on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet. Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082.87 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.57	751.0	30.45	773.3	24.4	— 4.2	75	NE			4		6cs			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.30	769.6	30.48	774.3	31.6	— 0.2	70	SE			1		0			0	0	Foggy	Prof. Dr. Arndt.
Breslau	30.00	761.9	30.54	775.6	32.9	0.5	82	SSE			2		0			0	0		Royal University Obs'y
Carlsruhe	29.93	760.2	30.39	771.8	31.8	— 0.1	76	E			1		9	SW		0	0	Foggy	Albert Senz.
Cassel	29.85	758.2	30.47	773.9	27.5	— 2.5	77	SE			2		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.12	765.0	30.50	774.8	32.0	0.0	49	NE			0		3			0	0		Physical Society.
Friedrichshafen	28.90	734.0	30.43	773.0	26.2	— 3.2	74	NW			1		0			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.35	770.9	30.42	772.7	30.4	— 0.9	84	SSE			1		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.37	771.5	30.39	771.9	32.0	0.0	73	S			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.43	772.8	30.52	775.1	21.2	— 6.0	74	W			2		0			0	0		Prof. E. Luther.
Köslin			30.50	774.7	26.8	— 2.9		Calm			0		0			0	0		H. Müller.
Leipsic Observatory	30.04	763.0	30.48	774.2	35.6	2.0	57	ENE			0		7			0	0	Hazy	Prof. Dr. Brahms, Privy Counselor
Magdeburg	30.20	767.0	30.43	772.9	31.1	— 0.5	71	SE			1		0			0	0	Light fog	Dr. Assmann.
Memel	30.36	771.2	30.41	772.4	34.0	1.1	87	WSW			5		10n						Reinbrecht & Isserman
Munich (München)	28.51	724.1	30.39	772.0	22.8	— 5.1	99	N			2		9			0	0		Dr. C. Lang.
Neufahrwasser	30.51	774.9	30.52	775.3	29.5	— 1.4	68	S			1		0			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.90	759.4	30.43	773.0	31.5	— 0.3		NW			1		5			0	0		Reallehrer Dicknether.
Posen	30.24	768.0	30.55	775.9	28.8	— 1.8	80	Calm			0		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.84	757.8	30.43	773.0	22.1	— 5.5	85	NE			1		7			0	0		Imp. University Observatory.
Stuttgart	29.39	746.6	30.40	772.1	29.3	— 1.5	74	E					0			0	0		Prof. Dr. Schoder.
Thorn	30.39	771.9	30.58	776.8	25.9	— 3.4	92	Calm			0		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.88	733.5	30.47	774.0	24.3	— 4.3	82		0.4	0.2						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.43	773.0	30.45	773.5	27.9	— 2.3	89	SE			2		9c	W		0	0		E. Schütz, Director.
German Naval Series.													48						

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.07	763.7	30.47	773.8	51.6	10.9		NE			2.0		5					¼ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.3	30.06	763.6	74.9	23.8	42	N	9	4.0			1			0	0	D. clouds
Deesa	29.62	752.3	30.10	764.4	82.7	28.2	17	NE	9.5	4.2			0			0	0	Blue sky
Bombay	29.98	761.6	30.02	762.6	79.3	26.3	69	W	8	3.6			2	WSW		0	0	D. clouds
Poona (Yarrowda)	28.16	715.2	30.01	762.3	81.3	27.4	21	ENE	9	4.0			5	W		0	0	D. clouds.
Belgaum	27.47	697.7	30.01	762.2	79.0	26.1	33	NE	2.0	0.9			3		E	0	0	D. clouds
Lahore	29.36	745.8	30.13	765.3	67.7	19.8	30	Calm	2.0	0.9			6			0	0	D. clouds
Roorkee	29.16	740.6	30.08	764.2	68.4	20.2	47	NW	2.0	0.9			1			0	0	D. clouds.
Agra	29.55	750.6	30.14	765.4	67.8	19.9	60	Calm	2.0	0.9			0			0	0		
Nagpur	29.02	737.0	30.08	763.9	76.2	24.6	43	Calm	2.3	1.0			0			0	0	Blue sky	
Jubbulpore	28.70	729.0	30.10	764.6	70.5	21.4	40	N	0.7	0.3			0			0	0	Blue sky	
Lucknow	29 74	755.5	30.13	765.4	70.3	21.3	51	Calm	0.2	0 1			0			0	0	Blue sky	
Allahabad	29.81	757.1	30.14	765.5	62.6	17.0	63	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.94	760.4	30.13	765.2	69.3	20.7	52	W	0.5	0.2			0			0	0	Blue sky	
Hazaribagh	28.04	712.2	30.13	765.3	62.8	17.1	54	NW	3.5	1.6			0			0	0	Blue sky	
Cuttack	30.02	762.4	30.10	764.6	73.8	23.2	58	NE	0.5	0.2			1			0	0	Blue sky	
Calcutta (Alipore)	30.06	763.4	30.08	764 0	67.1	19.5	95	NW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.68	753.7	30.08	764.0	74.8	22.7	40	Calm	1.3	0.6			0			0	0		
Chittagong	29.96	761.1	30.06	763.5	72.2	22.3	68	NW	3.6	1.6			0			0	0	Blue sky	
Sibsagar	29.75	755.5	30.10	764.4	66.3	19.1	71	ENE	1.1	0.5			0			0	0		

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.00	762.0	30.44	773.1	47.7	8.7	62	W	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.88	758.9	30.43	773.0	46.0	7.2	91	W	.....	.....	.....	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.3	30.44	773.3	44.8	7.1	64	NNW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.50	749.2	30.44	773.3	40.1	4.5	79	NNW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.15	765.8	30.35	770.9	51.1	10.6	51	NE	6.9	3.1	.....	.....	8	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.48	723.4	30.50	774.8	41.7	5.4	95	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.37	771.5	30.43	772.9	39.6	4.2	93	NW	4.3	1.9	.....	.....	10	ESE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.07	763.7	30.34	770.7	53.6	12.0	61	NE	.....	.....	2	.....	10	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.23	767.8	30.32	770.1	51.1	10.6	72	S	8.1	3.6	.....	.....	10	SE	.....	0.094	2.4	.....	Prof. P. Monte.
Rome	30.07	763.8	30.25	768.4	54.5	12.5	64	E	11.2	5.0	.....	.....	10	.....	.....	0.071	1.8	.....	Prof. P. S. Ferrari
Lecce	30.13	765.4	30.40	772.1	53.8	12.1	76	SE	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.36	745.7	30.37	771.3	52.5	11.4	73	NW	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.79	756.6	29.98	761.5	66.7	13.7	76	E	.....	.....	4	.....	10	.....	.....	0.467	11.6	.....	Prof. A. Pacinotti.
Palermo	29.83	757.7	30.09	764 2	63.3	17.4	50	SSE	4.9	2.2	.....	.....	10	ESE	.....	0.012	0.3	.....	Prof. G. Cincciatore.
Syracuse	30.09	764.2	30.13	765 3	57.7	14.3	81	ESE	12.5	5.6	.....	.....	10	SW	.....	0.559	14.2	.....	Prof. V.G. Gulfano.
SUB-SERIES.																			
Naples, S. R.	29 71	754.5	30.24	768 9	54.5	12.5	58	ESE	4.3	1.9	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.50	774.7	30.52	775.2	37.2	2.9	77	NNE	2.9	1.3	.....	4ck	.....	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.31	769.9	30.53	775.4	35.4	1.9	84	E	5.1	2.3	.....	0	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.34	770.6	30.42	772.6	32.3	0.2	47	N	9.2	4.1	.....	0	8s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.45	773.4	30.51	774.9	35.9	2.2	71	E	4.8	2.1	.....	.....	10s;ks	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.03	635.8	30.23	767.7	41.9	5.5	50	SW	.....	.....	1	1s	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.43	620.6	30.24	768.1	50.0	10.0	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.73	755.0	29.99	761.7	66.6	19.2	81	NW	.....	.....	2	.....	10n	.....	SW	0	0	Covered	F. Quijano, C. E.
Mexico, Central Observatory	23.09	586.5	30.25	768.4	44.6	7.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.11	612.5	.....	.....	55.2	12.9	62	E	.....	.....	2	2c	0	E	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23 82	607.5	30.01	762.2	45.0	7.2	62	SW	.....	.....	1	0	1s	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	593.2	30.32	770.0	40.1	4.5	48	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.1	30.24	768.1	46.9	8.3	45	SW	.....	.....	1	6	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tacotalpam	29.02	759.9	29.93	760.2	70.2	21.2	92	SW	.....	.....	1	.....	10	.....	SW	0	0	Covered	Prof. M. M. Chàzaro.
Vera-Cruz	29.88	759.0	29.91	759.7	73.4	23.0	91	Calm	0	0	.....	2s	0	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.52	572.0	30.15	765.9	47.8	8.8	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.32	770.2	30.32	770.2	40.1	4.5	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.26	769.4	30.35	770.8	37.2	2.9	.....	S	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.28	769.2	30.28	769.2	37.8	3.2	.....	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.31	769.9	30.31	769.9	39.7	4.3	72	S	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.31	769.8	30.35	771.0	36.5	2.5	86	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Lo'er. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen	29.84	758.0	29.90	759.4	43.5	6.4	73	S	37.4	16.7			10			0.276	7.0		
Brōno	29.81	757.1	29.85	758.1	35.2	1.8	67	SW	9	4			3			0.165	4.2		
Christiana	30.00	761.9	30.15	765.8	36.9	2.7	91	SSW	13	6			10			0.024	0.6	Light fog	
Tromsō	29.41	747.0	29.45	748.1	29.5	— 1.4	88	SW	29	13			10			0.346	8.8	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. red. Inches.	Bar. red. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Lo'er 0—10.	Upper from—	Lower from—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.17	741.0	30.20	767.1	49.6	9.8	76	NNE	5.6	2.5			10			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.04	762.9	30.12	765.1	64.0	17.8	62	SW	4.9	2.2			9			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.85	758.2	30.23	767.7	46.0	7.8	80	NNE	6.3	2.8			10	WSW		0	0		The Staff.
Ponta Delgada (Azores)	30.00	762.0	30.07	763.8	57.6	14.2	58	ESE	3.8	1.7			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. red. Inches.	Bar. red. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Lo'er 0—10.	Upper from—	Lower from—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. d Silva Costa, Com'd't.
D. Fernando																			A. . e Sande, Com'd't.
Duque da Terceira																			J. C M. Cabrate, 1st Lt.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos																			H. de C. C. e Athayde.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Bulama, Bissago Islands., Africa.					82.4	28.0		ESE			2		2		ESE	1		D. clouds	T. Pereira, 2nd Lieut.
Sá da Bandeira																			F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Benguela, Benguela			29.89	759.1	78.1	25.6		NW			3		2		NW	1	WNW	D. clouds	F. de Assis Camillo, jun., Q. M.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.34	770.5	64.4	18.0		ENE			3		7		ENE	1		D. clouds	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. red. Inches.	Bar. red. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Lo'er 0—10.	Upper from—	Lower from—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Archangel	29.58	751.4	29.60	751.9	24.1	— 4.4	93	WSW	18	8			2ks						Capt. Sseliwerstow.
Astrakhan	30.55	776.0	30.08	763.9	17.1	— 8.3	76	NNE	2	1			0			Blank	Blank		Capt. Wisganow.
Barnaul	29.74	755.5	30.30	769.6	5.2	—14.9	96	SW	13	6			10						Meteorological Obs.
Dorpat	30.06	763.4	30.31	769.9	31.5	— 0.3	92	W	9	4			10n						Prof. Dr. Weihrauch.
Ekaterinburg	29.24	742.7	30.36	771.2	—17.5	—27.5	75	SE	2	1			1s						Meteorological Obs.
Irkutsk																			
Kasan	29.81	757.2	30.11	764.7	14.7	— 9.6	97	S	13	6			10					Light snow.	Physical Cabinet.
Kertch																			Lagorio.
Kieff	29.80	757.0	30.48	774.1	33.1	0.6	54	W	4	2			0						Physical Cabinet.
Krotkowo*	29.80	757.0	30.33	770.4	7.5	—13.6	74	S	9	4			2s						Cand. Fatjanow.
Lugan	30.37	771.5	30.60	777.2	18.7	— 7.4	72	SSE	4	2			8						Meteorological Obs.
Moscow	29.62	752.4	30.21	767.2	28.2	— 2.1	71	SSE	4	2			0						Meteorological Obs.
Nertchinsk	28.17	715.4	30.96	786.3	—33.9	—36.6	74	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.57	776.4	30.64	778.2	23.7	— 4.6	70	Calm	0	0			0						Kurdakof.
Nukuss	30.36	771.2	30.63	777.9	7.9	—13.4	88	ENE	7	3			1ks						
Orenberg																			
Pekin (China)	30.39	771.8	30.53	775.4	19.6	— 6.9	92	Calm	0	0			10n					Snowing	Physical Observatory.
St. Petersburg	30.15	765.8	30.17	766.2	30.0	— 1.1	94	WNW	16	7			8kn					Light clouds	Central Physical Obs.
Tashkend	28.82	732.1	30.56	776.3	13.3	—10.4	93	NE	2	1			10						Teich, A. M.
Tiflis	28.92	734.6	30.44	773.2	27.1	— 2.7	89	Calm	0	0			10					Snowing	Physical Observatory.
Vladivostock																			
Warsaw	30.11	764.7	30.56	776.2	28.2	— 2.1	73	Calm	0	0			0						Astronomical Obs.
Wilna	30.06	763.5	30.51	775.0	24.1	— 4.4	96	SW	2	1			10					Heavy clouds	Astronomical Obs.
Yeniseisk	30.18	766.5	30.52	775.2	—20.9	—29.4	79	Calm	0	0			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. red. Inches.	Bar. red. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Lo'er 0—10.	Upper from—	Lower from—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.12	765.0	30.23	767.7	52.7	11.5	71	NE	7.1	3.17			10			0.120	3.05	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.11	764.9	30.17	766 3	64.4	18.0	47	S	3.3	1.46		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.22	691.5			47.3	8.5	66	SW	1.3	0.57		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory.	27.97	710.4	30.24	768.0	52.3	11.3	67	S	3.7	1.67		1	1	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.05	763.2	30.20	767.1	59.9	15.5	65	NE	1.7	0.75		2	5	SW		0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.6	30.10	764.6	52.6	11.3	66	SE	11.9	5.3			10			0	0	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.05	763.3	30.12	765.0	65.2	18.4	87	ESE	2.7	1.2		0	1k			0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	30.00	761.9	30.05	763 2	81.3	27.4	81	NE					7k		E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.12	765.0	30.22	767.5	57.4	14.1	72	Calm	0	0		3	4	W	W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.04	763.1	72.3	22.4	88	NE	0	0		4cks	8k	NE	NE	0.020	0.50	D. clouds	EnriqueGadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.86	758.4	29.90	759.4	27.3	— 2.6		SW			4		2			0	0		
Umea	30.01	762.3	30.07	763.6	26.6	— 3.0	87	Calm			0		0			0	0		
Hernosand	30.09	764.2	30.14	765.5	34.9	1.6	69	Calm			0		7			0	0		
Stockholm	30.11	764.9	30.29	769.4	33.4	0.8	85	WSW			2		10			0	0	Foggy	
Wisby	30.22	767.6	30.28	769.1	32.7	0.4	82	WSW			2		0			0	0		
Sub-Series.																			
Upsala	30.14	765.5	30.23	767.7	32.9	0.5	90	SSW	8.3	3.7			10			0	0		Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 53′, W. 79° 32′			29.90‡	759.5‡	79.5	26.4		NNE			4		8					Gloomy	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.91	734.4	30.43	772.8	26.6	— 3.0	99	E			1		10			0	0	Foggy	The Observatory.
Zurich	28.68	728.5	30.42	772.6	27.0	— 2.8	77	SW			1		2			0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.2 mm.; Thermometer, —5.1 Cent. Relative Humidity, +23 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.60	777.2	40.6	4.8	80	N	11	5.0			0			0	0		The Observatory.
Fao, Persian Gulf																			
Valona			30.37	771.4	54.9	12.7		NE			1		10			0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.26	768.7	55.0	12.8	58	N			4		0			6	0		Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.65	778.5	30.66	778.7	— 5.5	—20.8		SW	1	0.4						0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.66	778.7	30.73	780.5	— 8.3	—22.4	92	W	1	0.4		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.62	777.7	30.66	778.7	1.7	—16.8	100	W	8	3.6		0	0			0.02	0.5	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.08	764.0	30.30	769.6	1.3	—17.1	100	E			3	0	1s			0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.53	775.4	30.72	780.3	— 7.0	—21.7		W	1	0.4		0	2s			0	0	Fair	H. A. Johnson.
Father Point, Quebec					— 9.5	—23.1	78	S	12.0	5.4		5es	0	Calm		0	0	Fair	J. McWilliams.
Fredericton, N. B	30.69	779.5	30.76	781.3	— 8.8	—22.7	100	W	2	0.9		1es	Haze			Inap.	Inap.	Hazy	Prof. Harrison.
Fort Garry, Manitoba	28.96	735.6	29.90	759.4	— 8.0	—22.2	100	NW	5	2.2		5k	5m	W		0.16	4.1	Cloudy	James Stewart.
Granton, Ontario	28.90	734.0	30.04	763.0	31	— 0.6		SE			2		10n			0	0	Cloudy	James Grant.
Halifax, N. S	30.59	777.0	30.74	780.8	4.8	—15.1	85	W	6	2.7		0	0			0	0	Clear	A. Allison.
Hamilton, Ontario	29.78	756.4	30.18	766.6	25.7	— 3.5	82	N			1	10es	0	N		0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.96	761.0	30.32	770.1	25.7	— 3.5	84	SW	23	10.3		2c	2ks			0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.51	774.9	30.55	776.0	12.2	—11.0	89	W	7	3.1		5k	0	W		0	0	Fair	C. H. Rigby.
Montreal, Quebec	30.25	768.3	30.48	774.2	— 3.1	—19.5	79	NE	10	4.5		10es	0	W		0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.84	757.9	29.88	758.9	3.5	—16.8	95	S			4		10			0.10	2.5	Cloudy	J. R. Nelson.
Norwood	29.39	746.5	30.12	765.0	28.8	— 1.8	79	SE	14	6.3			10ks			0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.32	744.7	30.07	763.8	17.1	— 8.3	76	SE	22	9.8		2es	2ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.40	746.7	30.21	767.3	20.9	— 6.2	63	E			1		10n			0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.43	747.5	30.14	765.5	37.0	2.8	53	S	11	4.9		10k	0	SW		0	0	Cloudy	H. Morgan.
Port Stanley, Ontario	29.43	747.5	30.11	764.8	31.2	— 0.4	64	E	16	7.2			10ks			0	0	Cloudy	M. Payne.
Quebec, Quebec	30.24	768.1	30.61	777.5	— 5.0	—20.6	63	NE			1		Fog			0	0	Foggy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.74	755.4	30.28	769.1	3.1	—16.1	71	SE	12	5.4			10s			0	0	Cloudy	W. H. McIntyre.
St. John, N. B	30.54	775.7	30.73	780.5	1	—17.2	100	NE	2	0.9		4ck	0			0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.20	741.7	29.94	760.5	33.0	0.6	95	SE	36	16.1			10n			0	0	Overcast	Miss K. Stewart.
Stratford, Ontario	28.71	729.2	30.04	763.0	30.7	— 0.7	88	SE	12.0	5.4			10s			0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.51	774.9	30.56	776.2	9.0	—12.8	81	NW	9	4.0		0	1ks			0	0	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.76	755.9	30.16	766.1	32.6	0.3	85	SE	12	5.4			10ks			0.02	0.5	Cloudy	Magnetic Observatory
Windsor, N. S	30.60	777.2	30.71	780.0	40	4.4	100	W	5	2.2		0	0			0	0	Clear	Prof. John E. Oram, M.A
Woodstock, Ontario	28.96	735.6	30.07	763.8	30.2	— 1.0	81	SE	14	6.3			10ks			0	0	Cloudy	Professor Wolverton.
Yarmouth, N. S	30.69	779.5	30.76	781.3	12.4	—10.9	83	E	2	0.9		5c	2s	NW		0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.15	765.8	10	—12.2	58	NW					5s			Blank	Blank	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.20	767.1	6.8	—14.0		NW			4	k	n			0	0	Fair	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St. Pierre wind-force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.38	771.6	30.64	778.2	21	— 6.1	71	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Alpena, Michigan	29.18	741.1	29.84	757.9	28	— 2.2	88	S	16	7.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.15	740.4	30.33	770.4	48	8.9	77	E	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atlantic City, New Jersey	30.60	777.2	30.61	777 5	40	4.4	82	E	20	8.9	.....	10k	0	SW	.....	0	0	Cloudy.....	
Augusta, Georgia	30.22	767.6	30.42	772.7	54	12.2	80	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Baltimore, Maryland	30.58	776.7	30.63	778.0	33	0.6	70	NE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Barnegat, New Jersey	30.58	776.7	30.60	777.2	39	3.9	73	E	25	11.2	.....	10k	0	S	.....	0	0	Cloudy.....	
Bismarck, Dakota	28.15	715.0	30.01	762.2	— 5	—20.6	100	NW	24	10.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Boerne, Texas	28.52	724.4	29.82	757.4	55	12.8	81	N	12	5.4	.....	.....	10ks	.....	NE	0.25	6.3	Cloudy.....	
Boise City, Idaho	27.48	698.0	30.44	773.2	13	—10.6	71	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.59	777.0	30.77	781.5	17	— 8.3	67	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brackettville, Texas	28.78	731.0	29.83	757.7	56	13.5	51	N	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Breckenridge, Minnesota	28.82	732.0	29.92	760.0	— 4	—20.0	100	W	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Brownsville, Texas	29.83	757.7	29.87	758.7	73	22.8	85	SE	14	6.3	.....	8cs	0	Calm	.....	0	0	Fair.....	
Buffalo, New York	29.42	747.3	30.14	765.5	38	3.3	45	S	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.22	767.6	30.54	775.7	16	— 8.9	49	S	19	8.5	.....	5cs	5ks	W	SW	Inap.	Inap.	Cloudy.....	
Cairo, Illinois	29.64	752.8	30.02	762.5	61	16.1	71	S	24	10.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Campo, California	27.56	700 0	30.13	765.3	20	— 6.7	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.46	773.7	30.46	773.7	52	11.1	93	NE	16	7.2	.....	2cs	5ks	W	NE	0	0	Cloudy.....	
Cape Henry, Virginia	30.52	775.2	30.54	775.7	48	8.9	85	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.42	772.7	30.44	773.2	55	12.8	93	NE	21	9.4	.....	2c	5ks	NW	E	0	0	Fair.....	
Cape May, New Jersey	30.56	776.2	30.59	777.0	43	6.1	66	E	12	5.4	.....	.....	10ks	.....	SE	0	0	Cloudy.....	
Castroville, Texas	29.14	740.1	29.84	757.9	58	14.4	88	NW	4	1.8	.....	.....	10n	.....	Calm	0.31	7.9	Light rain...	
Cedar Keys, Florida	30.20	767.1	30.23	767.8	64	17.8	94	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.33	770.4	30.39	771.9	53	11.7	86	NE	11	4.9	.....	.....	10s	.....	Calm	0	0	Threatening	
Charlotte, North Carolina	29.61	752.1	30.47	773.9	41	5.0	82	NE	6	2.7	.....	.....	10s;sm'	.....	S;Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.47	748.5	30.28	769.1	56	13.3	69	SE	20	8.9	.....	.....	10s	.....	S	0	0	Cloudy.....	
Cheyenne, Wyoming	23.39	608.6	29.60	759.4	— 7	—21.7	59	NW	8	3.6	.....	0	0	.....	.....	.....	0	Clear.....	
Chicago, Illinois	29.09	738.9	29.78	756.4	46	7.8	77	S	13	5.8	.....	.....	10n	.....	Calm	0.24	6.1	Light rain...	
Cincinnati, Ohio	29.49	749.0	30.15	765 8	49	9.4	64	SE	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Cleveland, Ohio	29.36	745.7	30.09	764.3	45	7.2	53	SE	19	8.5	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy.....	
Coleman City, Texas	28.23	717.0	29.93	760.2	45	7.2	76	N	20	8.9	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy.....	
Columbus, Ohio	29.28	743.7	30.13	765.3	43	6.1	67	S	9	4.0	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Concho, Texas	28.14	714.7	29.84	757.9	44	6.7	84	NW	.....	.....	2	.....	5k	.....	.....	0.30	7.6	Fair.....	
Corsicana, Texas	29.51	749.5	29.99	761.7	56	13.3	109	N	12	5.4	.....	.....	10n	.....	Calm	0.66	16.8	Light rain...	
Davenport, Iowa	29.12	739.6	29.75	755.6	39	3.9	91	SW	16	7.2	.....	.....	10s	.....	Calm	0.68	17.3	Cloudy.....	
Dayton, Washington T'y	.....	.....	.....	.....	22	— 5.6	72	E	.....	.....	1	10k	0	N	.....	0	0	Cloudy.....	
Deadwood, Dakota	25.29	642.4	.....	.....	10	—12.2	58	SW	8	3.6	.....	.....	10n	.....	W	0.03	0.8	Light snow..	
Decatur, Texas	29.05	737.9	30.28	769.1	37	2.8	63	NW	8	3.6	.....	.....	10s	.....	NW	0.30	7.6	Cloudy.....	
Denison, Texas	29.26	743.2	30.06	763.5	49	9.4	78	NW	6	2.7	.....	.....	10s	.....	SW	0.06	1.5	Cloudy.....	
Denver, Colorado	24.78	629.4	30.00	762.0	— 3	—19.4	66	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.04	737.6	29.98	761.5	20	— 6.7	70	NW	16	7.2	.....	0	5s	.....	NW	0.22	5.6	Fair.....	
Detroit, Michigan	29.28	743.7	29.96	761.0	39	3.9	82	S	10	4.5	.....	10s	0	SW	.....	0	0	Cloudy.....	
Dodge City, Kansas	27.55	699.8	30.06	763.5	10	—12.2	79	NW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Dubuque, Iowa	29.09	738.9	29.81	757.2	33	0.6	89	W	14	6.3	.....	.....	10ks	.....	W	0.67	17.0	Cloudy.....	
Duluth, Minnesota	28.93	734.8	29.64	752.8	17	— 8.3	83	NE	4	1.8	.....	.....	10n	.....	N	0.41	10.4	Light snow.	
Eagle Pass, Texas	29.15	740.4	29.87	758.7	61	16.1	35	NW	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy.....	
Eastport, Maine	30.66	778.7	30.73	780.5	6	—14.4	76	N	4	1.8	.....	8c	Haze	NW	Calm	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.40	746.7	30.14	765.5	39	3.9	58	S	30	13.4	.....	0	5s	.....	SW	0	0	Fair.....	
Escanaba, Michigan	28.84	732.5	29.48	748.8	34	1.1	90	SW	13	5.8	.....	.....	10n	.....	SW	0.44	11.2	Light rain...	
Florence, Arizona	28.63	727.2	30.23	767.8	21	— 6.1	71	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.02	711.7	30.11	764.8	—10	—23.3	77	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Custer, Montana	26.89	683.0	.....	.....	11	—11.7	79	W	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.18	639.6	30.14	765.5	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.50	749.3	30.05	763.3	45	7.2	92	NW	16	7.2	.....	.....	10s	.....	N	0.30	7.6	Cloudy.....	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	18	— 7.8	69	N	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear.....	
Fort Griffin, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Keogh, Montana	27.37	695.2	.....	.....	9	—12.8	56	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair.....	
Fort McKavett, Texas	27.79	705.8	29.73	755.1	45	7.2	61	NE	12	5.4	.....	.....	10s	.....	N	0.12	3.0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.87	733.3	30.04	763.0	32	0.0	79	N	22	9.8	.....	10ck	0	Calm	.....	0.17	4.3	Cloudy.....	
Fort Stevenson, Dakota	28.12	714.2	.....	.....	— 9	—22.8	78	N	26	11.6	.....	0	0	.....	.....	0	0	Clear.....	
Fort Verde, Arizona	.....	.....	.....	.....	10	—12.2	58	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.24	727.3	29.80	756.9	53	11.7	67	N	12	5.4	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
Galveston, Texas	29.97	761.2	30.01	762.2	66	18.9	89	SE	7	3.1	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Graham, Texas	29.06	731.1	30.17	766.3	33	0.6	70	N	14	6.3	.....	.....	10s	.....	S	0.30	7.6	Cloudy.....	
Grand Haven, Michigan	29.59	738.9	29.74	755.4	44	6.7	92	S	22	9.8	.....	.....	10n	.....	Calm	0.12	3.0	Light rain...	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.20	741.7	30.19	766.8	33	0.6	80	N	16	7.2	.....	.....	10s	.....	SE	0.20	5.1	Cloudy.....	
Indianapolis, Indiana	29.17	740.9	29.94	760.5	52	11.1	73	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianola, Texas	29.93	760.2	29.96	761.0	70	21.1	90	SE	12	5.4	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy.....	
Jacksboro, Texas	29.02	737.1	30.20	767.1	40	4.4	82	N	20	8.9	.....	0	5s	.....	N	0.21	5.3	Fair.....	
Jacksonville, Florida	30.24	768.1	30.27	768.8	64	17.8	89	NE	7	3.1	.....	0	0	.....	.....	0.23	5.8	Clear.....	
Keokuk, Iowa	29.20	741.7	29.82	757.4	40	4.4	82	NW	13	5.8	.....	.....	10s	.....	W	0.80	20.3	Cloudy.....	
Key West, Florida	30.09	764.3	30.13	765.3	70	21.1	90	NE	6	2.7	.....	2k	0	NE	.....	0.02	0.5	Fair.....	
Kittyhawk, North Carolina	30.48	774.2	30.50	774.7	49	9.4	93	NE	15	6.7	.....	0	Fog	.....	NE	0	0	Clear.....	
Knoxville, Tennessee	29.26	743.2	30.30	769.6	43.5	6.4	80	E	8	3.6	.....	0	8ks	.....	SW	0	0	Fair.....	
La Crosse, Wisconsin	28.86	733.0	29.60	751.8	34	1.1	79	W	8	3.6	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	24	— 4.4	61	NW	2	0.9	.....	5k	2s	SW	Calm	0	0	Cloudy.....	
Laredo, Texas	29.60	751 8	29.94	760.5	60	15.6	88	N	3	1.3	.....	.....	10ks	.....	SW	0	0	Threatening	
Leavenworth, Kansas	29.22	742.2	30.12	765.0	22	— 5.6	72	NW	12	5.4	.....	0	0	.....	.....	1.19	30.2	Clear.....	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	29.66	753.4	30.01	762.2	62	16.7	72	S	9	4.0	.....	10cs	0	W	.....	0	0	Cloudy.....	
Los Angeles, California	29.83	757.7	30.18	766.6	35.5	1.9	71	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.52	749.8	30.07	763.8	58	14.4	53	S	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy.....	
Lynchburg, Virginia	29.85	758.2	30.58	776.7	37	2.8	90	NE	2	0.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Madison, Wisconsin	28.62	726.9	29.59	751.6	41	5.0	82	S	22	9.8	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy.....	
Marquette, Michigan	28.81	731.8	29.51	749.5	34	1.1	90	S	8	3.6	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy.....	
Mason, Texas	28.36	720.3	30.12	765.0	51	10.6	72	NE	5	2.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Memphis, Tennessee	29.74	755.4	30.08	764.0	58	14.4	81	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.92	734.6	29.65	753.1	40	4.4	91	SW	15	6.7	.....	.....	10m	.....	Calm	0.39	9.9	Light rain	
Mobile, Alabama	30.14	765.5	30.19	766.8	56	13.3	94	SE	4	1.8	.....	Haze	8s	.....	S	0	0	Cloudy	
Montgomery, Alabama	30.03	762.7	30.26	768.6	60	15.6	82	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.30	744.2	30.32	770.1	46	7.8	62	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H	23.92	607.6	30.28	769.1	21	— 6.1	71	W	48	21.5	.....	10k	2ks	Calm	W	0	0	Cloudy	
Nashville, Tennessee	29.64	752.8	30.17	766.3	60	15.6	69	SE	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
New Haven, Connecticut	30.61	777.5	30.74	780.8	18	— 7.8	84	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Threatening	
New London, Connecticut	30.67	779.0	30.72	780.3	22	— 5.6	80	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.00	762.5	30.12	765.0	62	16.7	88	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.68	779.3	30.74	780.8	29.6	— 1.4	73	SE	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.49	774.4	30.69	779.5	29	— 1.7	89	NE	15	6.7	.....	.....	10ks; fg	.....	NE	0	0	Cloudy	
Norfolk, Virginia	30.48	774.2	30.54	775.7	45	7.2	92	NE	5	2.2	.....	10c	0	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.18	690.4	30.04	763.0	3	—16.1	73	NW	16	7.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Olympia, Washington Ter	30.41	772.4	30.45	773.4	26.5	— 3.1	88	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Omaha, Nebraska	28.86	733.0	30.05	763.3	12	—11.1	80	NW	16	7.2	.....	0	0	.....	.....	0.71	18.0	Clear	
Oswego, New York	30.00	762.0	30.35	770.9	24	— 4.4	61	S	14	6.3	.....	4c	0	Calm	.....	Inap.	Inap.	Fair	
Pembina, Dakota	28.90	734.0	29.84	757.9	— 9	—22.8	100	NW	14	6.3	.....	0	0	.....	.....	0.04	1.0	Clear	
Pensacola, Florida	30.20	767.1	30.23	767.8	62	16.7	94	E	10	4.5	.....	.....	10ks	.....	SE	0	0	Cloudy	
Philadelphia, Pennsylvania	30.58	776.7	30.64	778.2	27	— 2.8	88	NE	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Phœnix, Arizona	29.06	738.1	31.01	787.6	28	— 2.2	66	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.30	439.5	29.51	749.5	— 9	—22.8	56	W	12	5.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Pilot Point, Texas	29.04	737.6	29.86	758.4	49	9.4	93	SE	6	2.7	.....	.....	10n	.....	SE	Inap.	Inap.	Light rain	
Pioche, Nevada	24.01	609.8	29.78	756.4	9	—12.8	57	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.46	748.3	30.31	769.9	38	3.3	72	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Port Huron, Michigan	29.28	743.7	29.95	760.7	30	3.9	82	S	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.70	779.8	30.76	781.3	12	—11.1	42	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.40	772.1	30.48	774.2	32	0.0	89	N	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	87	NE	24	10.7	.....	8cs	0	N	.....	0	0	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	—12	—24.4	.....	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	64	17.8	89	NE	3	1.3	.....	0	1s	.....	E	0	0	Clear	
Red Bluff, California	29.96	761.0	30.34	770.6	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.65	753.1	29.86	758.4	68	20.0	90	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.55	750.6	30.19	766.8	33	0.6	70	S	9	4.0	.....	5cs	2s	W	Calm	0.05	1.3	Cloudy	
Roseburg, Oregon	29.87	758.7	30.48	774.2	30	— 1.1	95	NE	1	0.4	.....	Haze	Fog	Calm	Calm	0	0	Fair	
Sacramento, California	30.21	767.3	30.29	769.4	31	— 0.6	89	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.93	760.2	59	15.0	54	S	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
St. Paul, Minnesota	28.86	733.0	29.72	754.9	18	— 7.8	68	W	11	4.9	.....	.....	10ks	.....	W	0.47	11.9	Cloudy	
Salt Lake City, Utah	25.79	655.0	30.12	765.0	10	—12.2	38	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Antonio, Texas	29.21	741.9	29.78	756.4	68	20.0	95	SE	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
San Diego, California	30.10	764.5	30.18	766.6	36	2.2	71	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.36	745.7	30.04	763.0	47	8.3	77	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.63	778.0	30.66	778.7	35	1.7	70	SE	22	9.8	.....	10ck	0	S	.....	0	0	Cloudy	
San Francisco, California	30.19	766.8	30.26	768.6	41	5.0	74	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	5	—15.0	25	NE	2	0.9	.....	0	0	.....	.....	0.18	4.6	Clear	
Savannah, Georgia	30.26	768.6	30.36	771.1	57	13.9	94	E	14	6.3	.....	.....	10s	.....	E	0	0	Cloudy	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	65	18.3	78	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.38	771.6	30.42	772.7	47	8.3	92	N	10	4.5	.....	5k	5s	Calm	Calm	0	0	Cloudy	
Socorro, New Mexico	25.40	645.2	29.46	748.3	18	— 7.8	53	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.19	741.4	29.85	758.2	51	10.6	72	.....	15	6.7	.....	.....	10s	.....	SW	0.13	3.3	Cloudy	
Springfield, Massachusetts	30.60	777.2	30.75	781.0	15	— 9.4	82	NE	4	1.8	.....	.....	10s	.....	S	0	0	Threatening	
Stockton, Texas	27.04	686.8	30.04	763.0	35	1.7	36	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.68	779.3	30.74	780.8	28	— 2.2	100	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Threatening	
Toledo, Ohio	29 28	743.7	29.97	761.2	45	7.2	68	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Clear	
Tucson, Arizona	27.64	702.0	30.20	767.1	16	— 8.9	66	S	3	1.3	.....	0	0	.....	.....	0.07	1.8	Clear	
Umatilla, Oregon	30.09	764.3	30.63	778.0	24	— 4.4	87	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.08	738.6	29.89	759.2	57	13.9	75	N	13	5.8	.....	.....	10s	.....	N	0	0	Cloudy	
Vicksburg, Mississippi	29.84	757.9	30.10	764.5	59	15.0	88	SE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.25	615.9	29.73	755.1	—10	—23.3	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.84	757.9	30.24	768.1	29	— 1.7	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.48	774.2	30.61	777.5	32	0.0	79	NE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	23	— 5.0	86	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Wilmington, North Carolina	30.35	770.9	30.44	773.2	47	8.3	85	NE	8	3.6	.....	1c	Fog	Calm	Calm	0	0	Clear	
Winnemucca, Nevada	25.83	656.1	30.19	766.8	1	—17.2	71	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.69	779.5	30.73	780.5	32	0.0	69	SE	12	5.4	.....	.....	10ks	.....	SE	0	0	Cloudy	
Yankton, Dakota	28.76	730.5	30.18	766.6	7	—13.9	77	NW	16	7.2	.....	0	0	.....	.....	0.35	8.9	Clear	
Yuma, Arizona	30.06	763.5	30.22	767.6	35	1.7	53	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.03	762.7	30.08	764.0	68	20.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	72	22.2	86	Calm	0	0	.....	0	5cs	.....	.....	0	0	Fair	James Gall.
Navassa, W. I	29.87	758.7	29.95	760.7	76.5	24.7	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	80	26.7	87	SE	.....	.....	2	.....	10n	.....	.....	0.260	6.35	Raining	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.36	745.7	29 91	759.7	80	26.7	85	Calm	.....	.....	0	.....	10k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I	30.05	763.3	30.08	764.0	73	22.8	85	N	7.2	3.2	.....	0	2s	.....	NE	Blank	Blank	.....	Robert Mason
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.66	753.4	29.71	754.6	—14.0	—25.6	73	NW	21	9.4	.....	3k	1s	NW	NW	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Columbia City, 1,527 (?) ft., or 626 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,- 150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 6,480 (?) ft. or 1,976 m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4 15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 m., or 53.1 mm.; Winnemucca, 4.81 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.25‡	768.3‡	.....	.....	64	17.8	89	SE	7	3.1	.....	.....	8	.....	SE	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.91‡	759.7‡	.....	.....	13	—10.6	81	N	2	0.9	.....	.....	5?	.....	.....	.....	.....	.....	.....	Overcast?...	
Alaska, S. 26° 04′ W. 71° 39′... *	29.91‡	759.7‡	.....	.....	72	22.2	80	SSE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Blue sky....	
Colorado, New York, N. Y.....	30.64‡	778.2‡	.....	.....	28	— 2.2	.....	ENE	1.7	0.8	.....	.....	10	.....	S	0	0	.....	.....	Cloudy	
Constitution, N. 12° 54′, W. 75° 18′...	29.94‡	760.5‡	.....	.....	78	25.6	82	ENE	.....	.....	6	.....	1	.....	E	.....	.....	Mod'ate	E	Clear	
Enterprise. Smyrna, Turkey.....	30.44‡	773.2‡	.....	.....	49	9.4	51	NNE	.....	.....	3	.....	1	.....	NE	.....	.....	Mod'ate	.....	Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	30.58‡	776.7‡	.....	.....	47	8.3	85	ENE	4.8	2.1	.....	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.33‡	770.4‡	.....	.....	37	2.8	81	ESE	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Key West, Fla.....	30.14‡	765.5‡	.....	.....	71	21.7	95	NE	.....	.....	1–2	.....	2	.....	NE	.....	.....	Smooth	.....	Fair...	
Lackawana, N. 35° 50′, W. 131° 40′... †	30.41‡	772.4‡	.....	.....	54	12.2	93	NE	.....	.....	3	.....	10	.....	NE	.....	.....	Mod'ate	N	Cloudy.....	
Marion, S. 20° 20′, W. 39° 21′...	30.05‡	763.3‡	.....	.....	80	26.7	82	ENE	.....	.....	3	.....	5?	.....	C. ans	Light	Light	Smooth	E	Clear?.....	
Michigan. Erie, Pa.....	30.11‡	764.8‡	.....	.....	40	4.4	74	SSE	.....	.....	6	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.53‡	775.4‡	.....	.....	39	3 9	65	NE	.....	.....	0–1	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.....	30.35‡	770.9‡	.....	.....	57	13.9	87	NE	16	7.2	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast.....	
Nipsic. , N. 10° 17′, W. 64° 48′.....	30.00‡	762.0‡	.....	.....	75	23.9	81	NNE	.....	.....	1	.....	2	.....	.....	.....	.....	Light	NNE	D. clouds.....	
Onward, Callao, Peru..... ....†	29.89‡	759.2‡	.....	.....	67	19.4	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy.....	
Palos, Tientsin, China.	30.56‡	776.2‡	.....	.....	24	— 4.4	100	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	30.63‡	778.0‡	.....	.....	38	0.6	79	NE	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Pensacola, Callao, Peru	29.89‡	759.2‡	.....	.....	67	19.4	95	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Off Ellis I'd., N. Y. Harbor	30.65‡	778.5‡	.....	.....	31	— 0.6	100	E	.....	.....	3	.....	8	.....	E	0	0	.....	.....	Hazy.....	
Quinnebaug, Leghorn, Italy	30.31‡	769.9‡	.....	.....	52	11.1	73	ESE	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Raining	
Ranger, N. 38° 20′, W. 142° 00′...	30.26‡	768.6‡	.....	.....	54	12.2	87	SSE	.....	.....	5	.....	10	.....	S	.....	.....	Mod'ate	S	Cloudy.....	
Richmond, Hong-Kong, China.....	30.26‡	768.6‡	.....	.....	64	17.8	78	ESE	.....	...	3	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †	30.01‡	762.2‡	.....	.....	70	21.1	95	SSE	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	30.59‡	777.0‡	.....	.....	33	0.6	....	NE	.....	.....	1	.....	10	.....	S	0	0	.....	.....	Overcast.....	
Shenandoah, Montevideo, Uruguay...	29.89‡	759.2‡	.....	.....	71	21.7	62	ESE	.....	.....	5	.....	10	.....	ESE	.....	.....	Rough	ESE	Cloudy.....	
St. Louis, League Island, Pa.....	30.56‡	776.0‡	.....	.....	27	— 2.8	.....	ENE	7	3.1	.....	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Swatara, N. 40° 53′, W. 45° 17′....	29.86‡	758.4‡	.....	.....	42	5.6	91	NW	.....	.....	6–7	.....	8	.....	NW	.....	.....	Heavy	W	Snowing.....	
Tennessee, Norfolk, Va.....	30.54‡	775.7‡	.....	.....	47	8.3	92	NE	4	1.8	.....	.....	10	.....	NE	0	0	.....	.....	Overcast.....	
Trenton, Port Mahon, Minorca, Med	30.04‡	763.0‡	.....	.....	59	15.0	70	E	.....	.....	4	.....	5	.....	E	Blank	Blank	.....	.....	Fair.....	
Tuscarora, La Union, S. Salvador.	29.96‡	761.0‡	.....	.....	77	25.0	73	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	29.77‡	756.1‡	.....	.....	18	— 7.8	84	NW	4	1.8	.....	.....	10	.....	.....	0	0	Smooth	.....	Hazy.	
Wyoming, Villafranca, France.....	30.11‡	764.8‡	.....	.....	53	11.7	73	N	.....	.....	4–5	.....	10	.....	N	.....	.....	Rough	N	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; *they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time.* The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 m/m

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent																			
Philadelphia, Pa.				29	— 1.7		NE			3		8		NE	0			Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 53° 08', E. 4° 04'		30.38‡	771.6‡	56.0	13 3	69	S			2		0			0	S'mooth	S	Clear	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 18', E. 173° 55'	1.	29.89‡	759.2‡	63	17.2	88	WSW			6		2		W		Irregular.		Clear	D. A. Joyce.
S. S. Gaelic, Davidson, N. 41° 28', E. 163° 29'	1.	30.49‡	774.4	39	9.9		Var.			8		ks		W		Mod'ate	WNW	Snowing	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Esquimault Harbor, Vancouver Pd.†		30.36‡	771 1‡	34	1.1		N			1		10						Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China		30 19‡	766.8‡	67	19.4	79	ESE			2		10			0	Smooth		Threatening	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Zalandia, R. C. Ghest. N. 37° 48', W. 122° 24'		30 16‡	766.1‡				NE			3				F					

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson N. 41° 10', W. 67° 23'		30.65‡	78.5‡	30	— 1.1		NNE	24	10.7			0			0	Light	NE	Clear	
S. S. Nederland, S. Stokes N. 47° 15', W. 31° 20'	†	29 23‡	742.4‡	56	13.3		W			6		10		W		High	W to N	Raining	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 4° 55', E. 41° 20'	*	30.11‡	764.9‡	60	15.6		N			4		0				Long	WSW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. Arroyo, Porto Rico, W. I.†		30.25‡	768.3‡	75	23.9		NE			5		2			Showers	Rough		Clear	
Iron Cross, W. Randall, N. 5° 50', W. 8°00'		29 87*	758.7‡	50	10.0	100	S			7		10		SSW	Slight	Mod'ate	SW	Drizzling	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office *Instrumental error not known. §Position probably given for noon, local time.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 31, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H. mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.16	766.1	.....	.....	.....	W	.....	.....	1	.....	6	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.19	766.9	59.5	15.3	83	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.22	767.6	55.8	13.2	72	N	.....	.....	2	.....	10	.....	.....	0.382	9.7	Covered.	Tourlière.
La Calle	.....	.....	30.19	766.7	57.7	14 3	70	WSW	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.11	764 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.11	764.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	30.20	767.0	42.8	6.0	91	Calm	.....	.....	0	.....	10	.....	.....	0.012	0.3	Covered	Brugniaux.
Laghouat	.....	.....	.....	.....	.....	.....	.....	N	.....	.....	3	.....	8	.....	.....	0.276	7.0	Very cloudy	Bertrand.
Biskra	.....	.....	30.23	767.8	54.3	12.4	46	N	.....	.....	4	.....	6	.....	.....	0	0	Cloudy	Chauvaux.
	.....	.....	30.08	764.0	65.1	18.4	71	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.04	762.9	30.64	778.2	21.6	— 5.8	100	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.86	758.5	30.69	779.6	27.3	— 2.6	92	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.69	754.0	30.63	778.1	27.0	— 2.8	66	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.28	743.8	30.66	777.7	31.3	— 0.4	70	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.14	740.1	30.69	779.5	26.4	— 3.1	85	NNW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster	29.03	737.3	30.47	774 0	25.9	— 3.4	96	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.56	750.8	30.60	777.3	35.1	1.7	71	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.29	769.4	30.41	772.4	46.4	8.0	58	NNW	.....	.....	1	.....	5	.....	.....	0	0	.....	R.Hydrographic Office
Szathmar	30.12	765.0	30.61	777 6	32.0	0.0	90	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Panesics, S. J.
Szegedin	30.30	769.7	30.60	777.3	32.0	0.0	75	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.31	769.9	30.41	772.5	48.6	9.2	46	E	.....	.....	2	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.86	758.4	30.61	777.6	32.7	0.4	64	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,360.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau
Brussels	30.17	766.2	30.37	771.5	38.7	3.7	77	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	Royal Observatory
Furnes	30.36	771.1	30.38	771.7	50.0	10.0	66	S	.....	.....	0	.....	0	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.26	768.7	30.39	771.9	37.8	3.2	70	SE	.....	.....	0	.....	3	.....	.....	0	0	.....	M. Pierrot.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. L., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.87	758.7	29.97	761.2	48.0	8.9	.....	SSW	33	14.8	.....	.....	4	.....	.....	0	0	Squally	W. Boswell.
Ardrossan	30.06	763.5	30.08	764.0	46	7.8	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast	G. Carrick.
Armagh, (Observatory)	29.84	757.9	30.09	764.3	47.9	8.8	.....	SSW	21	9.4	.....	.....	10	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.23	767.8	50.2	10.1	.....	SE	13	5.8	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.69	754.1	30.22	767.6	46.5	8.1	.....	SSW	12	5.4	.....	.....	9	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.84	757.9	30.24	768.1	51.7	10.9	76	W	.....	.....	2	.....	6	.....	.....	0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	29.99	761.7	77.5	25.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.26	768.6	30.35	770.9	53.5	11.9	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. Todd.
Cardington	.....	.....	30.33	770.4	46.0	7.8	.....	SW	.....	.....	0–1	.....	1	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham (School M. E.)	30.23	767.8	30.36	771.1	49.1	9.5	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	W. Gibson, Sapper, R.E.
Donaghadee	30.08	764.0	30.12	765.0	48	8.9	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D clouds	J. Mac Gowan.
Dover	30.35	770.9	30.38	771.6	43	6.1	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.08	764.0	30.31	769.9	47.3	8.5	.....	SE	.....	.....	1	.....	.....	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, Natal	27.51	698.7	29.68	753.9	84.7	29.3	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C.
Free Town, Sierra Leone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.99	761.7	50.5	10.3	.....	SSW	.....	.....	3	.....	9	.....	.....	0	0	Gloomy	Prof. A. H. Curtis.
Gibraltar, Mediterranean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.86	758.4	30.07	763.8	46.9	8.3	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.36	771 1	30.36	771 1	42	5.6	.....	SSW	.....	.....	1	.....	2	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.19	766.8	30.37	771.4	43.1	6.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Foggy	The Staff, for G.B.Airy.
Guernsey	30.11	764.8	30.33	770.4	48.5	9.2	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.39	771.9	30.51	774.9	52	11.1	.....	S	.....	.....	2	2c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.13	765.3	30.19	766.8	47	8.3	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	30.09	764.3	30.39	771.9	49.6	9.4	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.33	770.4	30.36	771.1	44.0	6.7	.....	S	1	0.4	.....	.....	0	.....	.....	.....	.....	Blue sky	The Met'g'l Office.
Leicester (Museum)	30.04	763.0	30.30	769.6	51.0	10.6	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.02	762.5	30.10	764.5	60.4	15.8	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.78	756.4	29.88	758.9	49	9.4	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.14	765.5	71 2	21.8	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.11	764.8	30.30	769.6	51.2	10.7	.....	SSW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.76	755.9	30.29	769.4	50.6	10.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.11	764.8	30.37	771.4	47	8.3	.....	S	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	30.23	767.8	30.30	769.6	49.2	9.6	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Misty	John Merrifield.
*Roche's Point	30.07	763.8	30.16	766.1	49	9.4	.....	SSW	.....	.....	4	.....	Fog	.....	.....	.....	.....	Foggy	Wm. Kennedy.
St. Ann's Head	30.06	763.5	30.23	767.8	47	8.3	.....	S	.....	.....	4	.....	7	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.78	756.4	43.2	6.2	.....	S	28	12.5	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.47	773.9	30.54	775.7	42.0	5.6	.....	ENE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	30.00	762.0	30.30	769.6	52.8	11.6	.....	SW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.12	765.0	30.14	765.5	47.4	8.6	92	SW	.....	.....	4	.....	10	.....	.....	0.046	1.17	Overcast	Rev. F. Redford, A.M.
Stonyhurst (Observatory)	.....	.....	30.22	767.6	50.0	10.0	.....	S	17	7.6	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	.....	.....	.....	.....	47.2	8.4	.....	S	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.14	765.5	30.21	767.3	51	10.6	.....	SE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.04	763.0	30.06	763.5	50.8	10.4	.....	SSW	35	15.6	.....	.....	10	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.88	758.9	29.92	760.0	80.4	26.9	59	SSW	6.0	2.7	.....	2ck	2	.....	.....	0	0	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.46	646.7	.....	.....	88	31.1	.....	WNW	.....	.....	.....	2c	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	69	20.6	.....	SW	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.4	80.4	26.9	76	NE	23.0	10.3	.....	5	4	NW	ENE	0.81	20.6	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.01	762.2	30.10	764.5	67.6	19.8	69	SE	3	1.3	.....	.....	0	.....	.....	0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.72	754.9	49	9.4	.....	SSW	.....	.....	8	.....	10	.....	.....	0.2	5.	.....	.....
North Unst, Shetland Is	.....	.....	29.74	755.4	.....	.....	.....	SW	.....	.....	6	8	6	SW	.....	0	0	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Clouds. Direction. From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
H. M. S. Alert, Sandy Point, Patagonia	.....	.....	29.32‡	744.7‡	48.5	9.2	WNW	.....	.....	1	7	.....	.....	.....	.....	D. clouds	Capt. A. J. Brown
City of Agra, S. 55° 57′ W. 62° 20′	.....	.....	29.14	740.1	46	7.8	WNW	.....	.....	3	6	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 36° 37′, W. 31° 05′	.....	.....	30.21‡	767.3‡	70	21.1	N	.....	.....	3	6	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve,
Barque Commewyne, N. 48° 50′, W. 14° 05′	.....	.....	30.08‡	764.0‡	52.3	11.3	SSW	.....	.....	5	7	.....	.....	.....	.....	D. clouds	Capt. Jas. Buchan.
Bqte Fylde, N. 35° 15′, W. 34° 50′	.....	.....	29.82	757.4	58	14.4	NNE	.....	.....	6	10	.....	.....	7	Confused	Drizzling	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.87‡	758.7‡	74	23.3	SE	.....	.....	2	1	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 3′, W. 77° 26′	.....	.....	30.17	766.3	75	23.9	E	.....	.....	3	4	.....	.....	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 7° 11′ E. 85° 43′	.....	.....	29.90‡	759.4‡	82.4	28.0	ESE	.....	.....	1	8	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S Strathleven, N 50° 45′. E. 0° 10′	.....	.....	30.26‡	768.6‡	45.5	7.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. O M. Dobson.
S. S Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	62.6	17.0	84	NE			2		2d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.42	772.7	30.47	773.9	36.0	2.2	68	SSW			2		0						
Faröe	30.40	772.1	30.42	772.6				SSE			2		0						
Godthaab (Greenland)	28.97	735.8	29.01	736.9	—7.4	—21.9	92	NNE			4		2						
Stykkisholm (Iceland)	28.68	727.2	28.67	728.3	29.8	— 1.2	96	SE			4		10					Snowing	
Thorshavn (Faröe)	29.20	741.6	29.23	742.5	49.3	9.6	91	SW			8		10						
Vestervig	30.22	767.5	30.33	770.3	48.3	3.5	87	S			6		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.84	758.0	30.39	772.0	48.2	9	55	NE			1		0			0	0	Clear	Colliguon, Director.
Amiens, Normal School	30.30	769.5	30.41	772.5				E			1		2		Calm	0	0	Slightly cld'y	Vaillant, Director.
Arras, Engin'r School	30.15	765.2	30.39	772.0	43.7	6.5	55	S			2		5			0	0	Light mist	Klein, Commandant.
Avignon, Normal School	30.29	769.4	30.37	771.4	52.9	11.6	48	N			1		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.80	756.9	30.39	771.9	35.1	1.7	71	S			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.12	765.1	30.41	772.3	37.2	2.9	52	E			1		2		E	0	0	Slightly cld'y	Frère Eugene Marie.
Besançon, Normal School	29.50	749.2	30.45	773 4	30.9	— 0.6		NE			1		0			0	0	Clear	A. Carré, Director.
Bordeaux	30.07	763.7	30.26	768.7	56.5	13.6	52	ESE			2	2c				0	0	Almost clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.55	750.6	30.47	773.9	37.4	3	72	N			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.79	756.6	30.36	771.2	38.7	3.7	72	N			1		0			0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.09	764.2	30.33	770.3	58.6	14.8	82	SSE			1		0			0	0		Ch. de Kermaree, Dir.
Caen, Normal School	30.28	769.2	30.36	771.1	44.6	7	80	SSE			1		1		SE	0	0	Very clear	M. Bietrin, Director.
Carcassonne, N. School	29.91	759.7	30.33	770.4	54.5	12.5	68	E			2		5	E	E	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.09	764.2	30.43	772.8	36.5	2.5	79	N			1		0					Clear	Jadot, Director
Chartres, Normal School	29.73	755.2	30.32	770.2	40.5	4.7	44	N			1		0			0	0	Clear	Vergier, Director.
Clermont-Fd, Puy de D. Obs	28.94	735.1	30.32	770.2	51.1	10.6	56	N			1	2c				0	0		Alluard, Director.
Commercy, Normal School	29.49	749.1	30.43	772.8	25.7	— 3.5	96	E			1		1		E	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.24	742.6	30.38	771.6	58.3	14.6	37	S			2		8		S	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.62	752.4	30.43	773.0	35.1	1.7		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.14	765.5	30.36	771.0	52.2	11.2	83	E			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.06	763.5	30.37	771.5	44.6	7	65	N			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.45	748.0	30.39	772.0	34.7	1.5	60	NNE			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.24	768.2	30.36	771.0	51.8	11.0	56	E			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.77	756.1	30.42	772.6	37.8	3.2	76	WSW			1					0	0		Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.07	763.6	30.34	770.5	57.9	14.4	47	SW			1		8		SE	0.016	0.4		E. Stephan, Director.
Mirecourt, Normal School	29.27	743.5	30.40	772.2	24 1	— 4.4	95	N			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	25.00	635.1	30.32	770.1	30.7	2.6	61	NE	5.6	2.5			9		E	0	0		M. Cave, for Dr. Fines.
Nice	30.28	769.2	30.32	770.1	60.8	16.0	42	E			4		1	E	E	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	30.12	765.1	30.33	770.3	62.8	17.1	65	S			1		cn		S	0	0		M. Boyer, Director.
Paris, Montsouris Obs'y	30.10	764.5			35.8	2.1	77	NNW			1		10			0	0	Foggy	Marié Davy, Director.
Perpignan	30.27	768.8	30.38	771.7	49.6	9.8	81	SW	1.8	0.8			10		SE	0.012	0.3	Raining	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.60	574.3			30.2	— 1.0									SE	0	0		M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School																			
Puy de Dome (Summ'y) Obs	29.29	744.0	30.38	771.7	49.1	9.5	48	N			1		0			0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.39	644.8			37.4	3.0	67	WSW			2		5		S	0	0	½ covered	Alluard, Director.
Rouen, Normal School	30.32	770.0	30.35	770.8	54.9	12.7	67	ESE			2		0			0	0	Clear	Lt E. Decante, Director
Saint Malo (Port) Obs'y	30.32	770.1	30.41	772.3	39.9	4.4	62	ENE			1		0			0	0	Clear	Frère Lucard, Director
Saint Maur (near Paris)	30.35	771.0	30.39	771.8	54.7	12.6	52	SE			2		0			0	0	Clear	Lt. Hercouet, Director
Tarbes, Normal School	30.22	767.6	30.39	771.8	38.8	3.8	70	NE			1		1		ENE	0.012	0.3	Clear	E. Renou, Director.
Toulouse, Observatory	29.10	739.1	30.24	768.1	66.2	19	54	S			1					0	0		T. Huguet, Director
Tours	29.60	751.7	30.32	770.2	55.9	13.3	74	SE			3		2			0	0	Slightly cl'dy	B. Bailland, Dir.
Versailles, Observatory	30.15	765.7	30.34	770.7	42.1	5.6	73	E			1		5		NNE	0	0	½ covered	M. de Tastes.
Villefranche-sur-Saone, N.S	29.87	758.6	30.36	771.1	39.9	4.4	59	NE			1		0			0	0	Clear	Dr. A. Berigny, Director
SUB-SERIES.	29.75	755.6	30.50	774.7	39.2	4	79	SE			1		0			0	0	Clear	Nicot, Director.
Fort de France, Martinique	29.07	761.2	30.00	761.9	73.8	23.2										0.20	5.		L'Abbé Marchési
Zi-Ka-Wei (near Shanghai	30.26	768.7	30.29	769.4	41.5	5.3	96	ESE	7.4	3.3		4ck		W		0	0	Cloudy	Marc Dechevrens. S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Mt. Louis, Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,012.97 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,360 m., or 7,768 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.58	751.3	30.45	773.5	26.2 — 3.2		76	E			4		4s			0	0		Prof. Dr. Hoh.
Berlin	30.33	770.3	30.51	774.9	35.2 1.8		67	SE			1		0			0	0		Prof. Dr. Arndt.
Breslau	30.03	762.7	30.57	776.5	35.2 1.8		64	SE			2		0			0	0		Royal University Obs'y
Carlsruhe	30.00	761.9	30.46	773.6	28.0 — 2.2		83	NE			0		0			0	0	Foggy	Albert Senz.
Cassel	29.78	756.4	30.39	772.0	25.5 — 3.6		81	ESE			1		0			0	0		Dr. H. Möhl.
Emden			30.56	776.3	30.4 — 0.9														Prof. Dr. Prestel.
Frankfort on the Main	30.15	765.8	30.54	775.7	32.0 0.0		54	ENE			0		2			0	0		Physical Society.
Friedrichshafen	28.95	735.4	30.49	774.4	27.3 — 2.6		67	S			1		10			0	0	Hazy	Chief Telegrapher Wilhelm.
Hamburg	30.42	772.7	30.49	774.5	33.1 0.6		78	SE			2		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.45	773.5	30.47	773.9	35.4 1.9		73	S			1		0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.54	775.6	30.63	777.9	26.4 — 3.1		73	SW			2		0			0	0		Prof. E. Luther.
Köslin			30.56	776.3	30.4 — 0.9			Calm			0		0			0	0		H. Müller.
Leipsic Observatory	30.07	763.7	30.51	775.0	33.5 1.0		62	SE			1		1			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.26	768.7	30.50	774.6	29.7 — 1.3		69	SE			1	1c		S		0	0		Dr. Assmann.
Memel	30.52	775.2	30.57	776.4	21.6 — 5.8		93	SE			4		0						Reinbrecht & Issermann
Munich (München)	28.55	725.2	30.44	773.2	18.5 — 7.5		91	N			1		5			0	0		Dr. C. Lang.
Neufahrwasser	30.59	776.9	30.60	777.3	22.3 — 5.4		80	SSE			2		0			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.90	759.5	30.43	773.0	31.3 — 0.4			SE			0		1	S		0	0		Reallehrer Dicknether.
Posen	30.28	769.3	30.59	776.9	29.7 — 1.3		80	E			1		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.90	759.5	30.50	774.7	24.1 — 4.4		90	NE			1		8			0	0		Imp. University Observatory.
Stuttgart	29.45	748.0	30.45	773.5	29.7 — 1.3		71	N					0			0	0		Prof. Dr. Schoder.
Thorn	30.45	773.5	30.65	778.4	29.3 — 1.5		70	E			2		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.90	734 1	30.50	774.7	28.9 — 1.7		75	Calm	0	0		3c				0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.50	774.7	30.52	775 3	36.0 2.2		93	SSE			3		0			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.04	762.9	30.43	772.9	56.7	13.7		NW			2.0		0					Light fog	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.0	30.05	763.3	75.5	24.2	54	W	6	2.7			0			0	0	Blue sky	
Deesa	29.90	751.8	30.07	763.9	82.8	28.2	23	N	7.8	3.5			0			0	0	Blue sky	
Bombay	29.95	760.8	29.79	761.7	79.4	26.3	76	NNW	13	5.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.14	714.7	29.98	761.6	83.8	28.8	22	NE	5	2.2			1			0	0	D. clouds	
Belgaum	27.50	698.4	29.93	760.3	80.2	26.8	36	Calm					3	E	NE	0	0	D. clouds	
Lahore	29.36	745.6	30.13	765.2	66.6	19.2	33	Calm	0.5	0.2			9			0	0	D. clouds	
Roorkee	29.13	739.9	30.06	763.5	67.8	19.9	51	NW	1.0	0.4			6			0	0	D. clouds	
Agra	29.51	749.5	30.09	764.4	68.3	20.2	54	NW	2.6	1.1			0			0	0	Blue sky	
Nagpur	28.99	736.4	30.05	763.2	79.1	26.2	45	Calm	1.9	0.8			0			0	0	Blue sky	
Jubbulpore	28.69	728.7	30.09	764.3	70.2	21.2	45	NE	0.9	0.4			3			0	0	D. clouds	
Lucknow	29.75	755.7	30.14	765.6	70.2	21.2	51	Calm	0.2	0.1			0			0	0	Blue sky	
Allahabad	29.77	756.2	30.10	764.4	65.4	18.6	66	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.90	759.5	30.09	764.3	70.1	21.2	53	W	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	28.09	711.3	30.08	764.1	64.8	18.2	49	NW	4.1	1.8			0			0	0	Blue sky	
Cuttack	29.56	761.1	30.05	763.2	75.0	23.9	60	Calm	0.5	0.2			0			0	0	Blue sky	
Jalcutta (Alipore)	30.02	762.5	30.04	763.1	68.6	20.3	61	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.64	752.7	30.04	762.9	72.4	22.4	51	Calm	2.3	1.0			0			0	0	Blue sky	
Chittagong	29.94	760.4	30.03	762.8	70.0	21.1	73	NW	3.4	1.5			0			0	0		
Sibsagar	29.74	755.3	30.08	764.1	67.0	19.4	72	ENE	1.0	0.4			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,846.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.00	762.0	30.44	773.1	48.0	9.4	40	NE	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.89	759.3	30.44	773.3	43.3	6.3	80	SSE	.....	.....	.....	.....	10	ESE	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.32	770.1	30.44	773.1	43.7	6.5	47	NNE	11.2	5.0	.....	.....	9	SE	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.50	749.4	30.45	773.5	43.5	6.4	73	NNW	2.5	1.1	.....	.....	8	SW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.19	766.7	30.39	771.8	53.1	11.7	40	N	8.7	3.9	.....	.....	8	NE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.47	723.2	30.50	774.6	47.5	8.6	46	W	.....	.....	2	.....	8	.....	.....	0.197	5.0	.....	Prof. D. C. Bruno.
Pesaro	30.38	771.6	30.43	773.0	42.1	5.6	91	NW	6.9	3.1	.....	.....	8	E	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.10	764.6	30.36	771.0	53.6	12.0	46	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.24	768.2	30.34	770.6	53.2	11.8	49	NE	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.15	765.8	30.33	770.4	54.1	12.3	60	SE	5.6	2.5	.....	.....	10	.....	.....	0.016	0.4	.....	Prof. P. S. Ferrari
Lecce	30.12	765.0	30.38	771.7	53.6	12.0	82	NW	4.3	1.9	.....	.....	9	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.42	747.2	30.42	772.7	49.6	9.8	69	NW	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.94	760.5	30.18	765.4	54.5	12.5	86	NW	.....	.....	2	.....	10	E	.....	0.772	19.6	.....	Prof. A. Pacinotti.
Palermo	29.93	760.3	30.19	766.7	56.1	13.4	74	ENE	6.3	2.8	.....	.....	9	SE	.....	0.106	2.7	.....	Prof. G. Ciacciatore.
Syracuse	30.12	765.1	30.17	766.2	56.5	13.6	83	ESE	19.9	8.9	.....	.....	10	SE	.....	0.197	5.0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.76	755.8	30.29	769.3	53.6	12.0	55	WSW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	772.1	30.42	772.6	40.3	4.6	87	NNE	2.6	1.2	.....	.....	10m	.....	.....	0.060	1.52	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	30.16	766.0	30.37	771.4	42.2	5.7	94	NE	2.3	1.0	.....	.....	10n	.....	.....	0.570	14.48	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.34	770.6	30.41	772.4	29.9	— 1.2	90	SE	2.5	1.1	.....	1ck	.....	.....	.....	0	0	Foggy	The Staff.
Wakayama	30.36	771.1	30.42	772.6	37.1	2.8	79	SE	1.9	0.8	.....	.....	10s	.....	.....	0.265	6.62	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.7	30.26	768.7	41.9	5.5	53	SW	.....	.....	1	1ck	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.47	621.5	30.24	768.0	53.6	12.0	73	Calm	.....	.....	0	1c	0	.....	.....	0	0	Pleasant	Prof. M. Leal.
Mazatlan	29.77	756.1	30.03	762.8	63.1	17.3	79	NW	.....	.....	3	.....	10n	.....	.....	0	0	Covered	F. Quijano, C. E.
Mexico, Central Observatory	23.09	586.6	30.26	768.7	44.2	6.8	48	Calm	0	0	.....	0	0	.....	.....	0	0	Pleasant	The Staff.
Morelia	23.95	608.2	.....	.....	55.6	13.1	64	SE	.....	.....	4	0	0	.....	.....	0	0	Very clear	M. Fona, M. D.
Pabellon (Aguascalientes)	23.97	608.9	30.08	763.9	46.9	8.3	64	SW	.....	.....	1	4ck	0	SW	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.6	30.39	771.8	40.1	4.5	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.21	615.0	30.30	769.7	49.3	9.6	72	SE	.....	.....	1	3	3	W	E	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.05	763.2	30.06	763.5	71.1	21.7	92	N	.....	.....	1	2	8	NE	SE	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.04	763.0	30.07	763.7	73.4	23.0	90	Calm	0	0	.....	8s	0	.....	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas																0	0		J. C. Castrillon.

NOTE.—The elevation of Guadalajara is 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.38	771.6	30.43	773.0	41.0	5.0	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.40	772.2	30.40	772.2	43.2	6.2	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.41	772.3	30.41	772.3	41.5	5.3	70	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.37	771.4	30.42	772.6	43.7	6.5	54	SSE	.....	.....	0	.....	0	.....	.....	0	0	Clear	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Empera-ure of he Air. Fahrenheit.	Empera-ure of he Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.99	761.7	30.04	763.1	44.2	6.8	91	S	31.1	13.9	.....	.....	10	.....	.....	0.260	6.6	Raining.....	
Brönø	29.57	751.1	29.61	752.1	42.8	6.0	85	SW	36	16	.....	.....	10	.....	.....	1.004	25.5	Raining.....	
Christiana	29.99	761.7	30.14	765.6	39.6	4.2	90	SSW	9	4	.....	.....	10	.....	.....	0	0	Light fog.....	
Tromsö	29.06	738.2	29.11	739.3	39.2	4.0	77	SSW	25	11	.....	.....	10	.....	.....	0.543	13.8	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.16	740.6	30.17	766.8	54.9	12.7	63	ENE	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.8	30.12	765.0	62.2	16.8	80	Calm	0	0	.....	.....	10	.....	.....	0.008	0.2	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.80	756.8	30.16	766.1	57.0	13.9	66	E	13.0	5.8	.....	.....	1	.....	.....	0.012	0.3	.....	The Staff.
Ponta Delgada (Azores)	29.76	756.0	29.84	757.8	64.0	17.8	90	S	6.9	3.1	.....	.....	10	.....	.....	0.107	2.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swel Height scale 0-9	Sea or swel Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. d Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd'r.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'r.
Rio Lima, Capt. S. C. da Silva Costa	.....	.....	.....	.....	81.5	27.5	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky.....
Bulama, Bissago Islands, Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Pereira, 2nd Lieut.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lobita, Benguela	.....	.....	29.85	758.2	78.8	26.0	.....	WNW	.....	.....	2	.....	1	.....	NNW	1	WNW	Blue sky.....
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.24	768.2	67.5	19.7	.....	E	.....	.....	1	.....	10	.....	E	1	.....	Raining, 3 hr's rain-fall.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.46	748.2	29.48	748.7	31.8— 0.1	90	WSW	22	10	.....	.....	10	.....	.....	.....	.....	Snowing...	Capt. Sseliwerstow.
Astrakhan	30.70	779.8	30.62	777.7	13.5—10.3	80	WSW	4	2	.....	.....	2cs	.....	.....	.....	.....	Light clouds	Capt. Wisgunow.
Barnaul	30.02	762.5	30.60	777.2	— 9.1—23.0	95	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.11	764.7	30.36	771.2	29.1— 1.6	74	SW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.86	733.0	29.89	759.2	15.6— 9.1	85	WNW	13	6	.....	.....	10	.....	.....	.....	.....	Light snow.	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.08	763.9	30.37	771.3	17.8— 7.9	83	SW	7	3	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.97	761.1	30.05	778.6	25.5— 3.6	82	Calm	0	0	.....	3c	.....	.....	.....	.....	.....	Hazy.....	Physical Cabinet.
Krotkowo*	29.98	761.6	30.50	774.7	18.9— 7.3	64	SSW	2	1	.....	.....	4	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.33	770.3	30.55	775.9	20.8— 6.2	79	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.94	760.4	30.53	775.4	27.5— 2.5	81	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.05	712.4	30.78	781.7	—26.5—32.5	75	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.61	777.4	30.68	779.2	22.3— 5.4	80	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.43	772.8	30.69	779.5	5.0—15.0	96	ENE	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.17	766.4	30.32	770.9	19.9— 6.7	95	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Physical Observatory,
St. Petersburg	30.13	765.4	30.15	765.8	35.2— 1.8	82	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.92	734.6	30.66	778.7	15.1— 9.4	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	29.09	738.8	30.61	777.4	34.0— 1.1	70	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	Light clouds	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.18	766.5	30.63	778.0	30.0— 1.1	63	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.20	767.1	30.66	778.7	22.5— 5.3	81	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yeniseisk	30.29	769.4	30.63	778.0	—17.0—27.2	82	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.20	767.0	30.31	769.8	55.0	12.8	72	ENE	11.2	4.94	.....	.....	8	.....	.....	0.006	0.15	Almost cov'd
Bilbao, Met. Obs'y	30.19	766.8	30.24	768.2	63.3	17.4	49	W	3.4	1.53	.....	0	0	.....	.....	0	0	Clear .....
Burgos, Met. Obs'y	27.27	692.7	.....	.....	38.8	3.8	87	NE	2.8	1.25	.....	0	2	.....	.....	0	0	Light clouds
Madrid, Royal Observatory	28.00	711.1	30.28	769.2	48.6	9.2	72	N	5.2	2.33	.....	2	6	N	.....	0	0	Light clouds
Murcia, Met. Obs'y	30.09	764.3	30.24	768.2	59.3	13.5	73	SW	1.1	0.50	.....	5	5	SW	.....	0	0	Covered.....
Santiago, Met. Obs'y	29.26	743.3	30.17	766.2	55.9	13.3	59	SE	8.1	3.6	.....	7	0	.....	.....	0	0	Cloudy.....
SUB-SERIES.																		
Havana, Cuba, W. I	30.08	764.1	30.16	765.8	66.8	19.3	88	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear. .....
Manilla, Phillippine Islands	29.98	761.6	30.07	763.9	78.8	26.0	82	N	1.0	0.3	.....	.....	10k	.....	E	.....	.....	Drizzling.....
San Fernando, Naval Obs'y	30.03	762.8	30.13	765.3	67.7	14.3	66	ESE	19.7	8.8	.....	0	10	.....	SE	0.003	0.1	Raining.....
San Juan de Porto Rico, W. I	30.04	762.9	30.13	765.2	74.1	23.4	80	SE	4.8	2.15	.....	4cs	3k	E	SE	0.050	0.75	D. clouds.....

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

Observer: Antonio Rave, Director. Prof. Manuel de Naveran. Domin to Martin y Perez. The Staff. Olayo Diaz, Director. R. Gil Villanueva, Dir. Benito Vines, S. J. Federico Faura, S. J. Capt. C. Pulaxon, R. N., Dir. EnriqueGiades, Chief Eng'r.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.51	749.5	29.55	750.5	37.4	3.0	.....	SW	.....	.....	4	.....	4	.....	.....	0	0	.....	
Umea	29.77	756.2	29.82	757.5	36.3	2.4	79	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.85	758.2	29.90	759.5	36.0	2.2	85	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Stockholm	30.07	763.7	30.24	768.2	41.4	5.2	60	W	.....	.....	6	.....	2	.....	.....	0	0	.....	
Wisby	30.24	768.1	30.30	769.6	39.6	4.2	65	WSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.05	763.3	30.14	765.5	37.6	3.1	69	SW	12.8	5.7	.....	.....	3	.....	W	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.98	736.0	30.50	774.6	25.2	— 3.8	99	SSW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.74	730.1	30.48	774.2	26.6	— 3.0	80	W	.....	.....	1	.....	3	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.8 mm.; Thermometer, —6.0 Cent. Relative Humidity, +23 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.01	777.6	40.6	4.8	67	ENE	12	5.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.35	770.9	59.4	15.2	.....	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.33	770.4	58.5	14.7	46	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.19	741.4	29.20	741.7	41.6	5.3	.....	SW	10	4.5	.....	.....	.....	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	29.23	742.4	29.30	744.2	41.1	5.1	78	SW	13	5.8	.....	2ck	7ks	SW	.....	0.17	4.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.36	745.7	29.41	747.0	39.0	3.9	95	SW	12	5.4	.....	.....	10n	.....	.....	0.16	4.1	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.71	754.6	33.0	0.6	88	W	.....	.....	4	.....	10s	.....	.....	0.09	2.3	Cloudy..	James Smith, M. A.
Dalhousie, N. B	29.05	737.9	29.22	742.2	15.5	— 9.2	.....	W	1	0.4	.....	0	1ks	.....	.....	0.10	2.5	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	31.8	— 0.1	100	N	42.0	18.8	.....	.....	10n	.....	.....	0.13	3.3	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.36	745.7	29.43	747.5	43.2	6.2	83	W	13	5.8	.....	.....	10s	.....	W	0.03	0.8	Overcast.....	Prof. Harrison.
Fort Garry, Manitoba	29.15	740.4	30.09	764.2	—12.0	—24.4	100	N	5	2.2	.....	2ck	2ks	N	.....	0	0	Clearing....	James Stewart.
Granton, Ontario	28.87	733.3	30.04	763.0	22	— 5.6	.....	W	.....	.....	2	2cs	0	.....	.....	0.10	2.5	Clear	James Grant.
Halifax, N. S	29.46	748.3	29.60	751.8	42.2	— 5.7	97	SW	24	10.7	.....	.....	10n	.....	.....	0.20	5.1	Light rain...	A. Allison.
Hamilton, Ontario	29.63	752.6	30.02	762.5	27.7	— 2.4	93	W	.....	.....	1	10cs	0	.....	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.50	749.3	29.85	758.2	29.8	— 1.2	80	W	19	8.5	.....	.....	10ks	.....	.....	0.23	5.8	Threatening	S. Woods, M. A.
Little Glace Bay, N. S	29.36	745.7	29.40	746.7	35.8	2.1	96	S	14	6.3	.....	.....	10n	.....	.....	0.32	8.1	Raining.....	C. H. Rigby.
Montreal, Quebec	29.49	749.0	29.70	754.4	33.0	0.6	80	W	28	12.5	.....	.....	10ks	.....	.....	0.12	3.0	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.72	754.9	29.76	755.9	—15.1	—26.2	73	W	.....	.....	2	0	0	.....	.....	0.30	7.6	Clear.	J. R. Nesson.
Norwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Perry Sound, Ontario	29.20	741.7	29.94	760.5	20.2	— 6.6	70	W	24	10.7	.....	2ck	5ks	W	W	0.16	4.1	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.93	760.2	25.1	— 3.8	83	W	.....	.....	6	.....	10n	.....	.....	0.05	1.3	Snowing.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.32	744.7	30.05	763.3	26.0	— 3.3	63	W	16	7.2	.....	2ck	0	W	.....	0.15	3.8	Fair..	H. Morgan.
Port Stanley, Ontario	29.41	747.0	30.10	764.5	24.4	— 4.2	68	W	22	9.8	.....	0	2ks	.....	.....	0.07	1.8	Clear.	M. Payne.
Quebec, Quebec	29.17	740.9	29.50	749.3	29.5	— 1.4	84	NW	.....	.....	7	0	2s	.....	.....	0.06	1.5	Fair.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.28	743.7	29.76	755.9	22.3	— 5.4	22	W	12	5.4	.....	0	2s	.....	.....	Inap.	Inap.	Fair.....	W. H. McIntyre.
St. John, N. B	29.28	743.7	29.46	748.0	41	5.0	100	SW	19	8.5	.....	.....	10n	.....	.....	0.38	9.7	Light rain...	G. Murdock, C. E.
Saugeen, Ontario	29.26	743.2	30.02	762.5	22.0	— 5.6	83	W	18	8.0	.....	.....	10ks	.....	.....	0.05	1.3	Overcast.....	Miss K. Stewart.
Stratford, Ontario	28.69	728.7	30.00	763.5	20.0	— 6.7	88	NW	18.0	8.0	.....	2ck	4s	NW	.....	0.06	1.5	Fair...	C. J. MacGregor, M. A
Sydney, C. B	29.45	748.0	29.49	749.0	39.7	4.3	96	SW	15	6.7	.....	.....	10n	.....	.....	0.26	6.6	Overcast.....	T. C. Hill, C. E.
Toronto, Ontario	29.61	752.1	30.02	762.5	26.1	— 3.3	82	W	24	10.7	.....	0	5ks	.....	.....	0.03	0.8	Fair...	Magnetic Observatory
Windsor, N. S	29.44	747.8	29.54	750.3	46.0	7.8	92	N	19	8.5	.....	.....	10n	.....	.....	0.16	4.1	Raining.....	Prof. John E. Oram, M.A
Woodstock, Ontario	28.92	734.6	30.05	763.3	23.2	— 4.9	85	S	27	12.1	.....	0	4ks	.....	W	0.17	4.3	Fine	Professor Wolverton.
Yarmouth, N. S	29.55	750.6	29.62	752.3	44.6	7.0	92	SW	36	16.1	.....	.....	10n	.....	.....	0.12	3.0	Light rain...	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.62	752.3	29.88	758.9	24	— 4.4	.....	SW	.....	.....	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.48	748.8	30.2	— 1.0	.....	SW	.....	.....	3	cs	n	.....	.....	0.12	3.0	Snowing.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Andrews the velocity of the wind is estimated, and at St Pierre wind force on the scale 0 to 7 is given. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Albany, New York	29.64	752.8	29.87	758.7	41	5.0	67	S	8	1.3	.....	.....	10s	.....	W	0.07	1.8	Cloudy	
Alpena, Michigan	29.35	745.5	30.04	763.0	14	—10.0	82	W	17	7.6	.....	.....	8s	.....	W	0.01	0.3	Cloudy	
Atcha, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.98	736.1	30.14	765.5	51	10.6	93	SE	9	4.0	.....	.....	Fog	.....	Calm	0.09	2.3	Foggy	
Atlantic City, New Jersey	29.98	761.5	29.99	761.7	48	8.9	100	SW	15	6.7	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Augusta, Georgia	30.04	763.0	30.25	768.3	51	10.6	93	NW	2	0.9	.....	.....	10s;fg	.....	Calm	0.14	3.6	Cloudy	
Baltimore, Maryland	29.96	761.0	30.01	762.2	50	10.0	93	W	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	53	11.7	100	SW	18	8.0	.....	.....	10n	.....	SW	0.11	2.8	Light rain	
Bismarck, Dakota	28.13	714.5	29.98	761.5	17	— 8.3	83	NW	32	14.3	.....	10cs	0	N	.....	0	0	Cloudy	
Boerne, Texas	28.76	730.5	30.14	765.5	38	3.3	91	N	.....	.....	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.67	702.8	30.63	778.0	20	— 6.7	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.60	751.8	29.75	755.6	47	8.3	100	W	45	20.1	.....	.....	10n	.....	W	0.09	2.3	Light rain	
Brackettville, Texas	28.80	731.5	30.18	766.6	42	5.6	66	N	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.74	730.0	29.78	756.4	19	— 7.2	100	W	22	9.8	.....	.....	8s	.....	Calm	0.01	0.3	Cloudy	
Brownsville, Texas	30.10	764.5	30.15	765.8	54	12.2	81	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.27	743.4	30.00	762.0	31	— 0.6	48	W	19	8.5	.....	5k	2s	W	.....	0.21	5.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.48	748.8	29.77	756.1	39	3.9	46	W	21	9.4	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Cairo, Illinois	30.03	762.7	30.45	773.4	31	— 0.6	79	N	14	6.3	.....	2c	0	W	.....	0.53	13.5	Fair	
Campo, California	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	59	15.0	88	SE	20	8.9	.....	Haze	2ks	.....	SE	0	0	Hazy	
Cape Henry, Virginia	30.07	763.8	30.03	764.0	61	16.1	82	S	14	6.3	.....	5cs	5s	SW	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	62	16.7	94	S	19	8.5	.....	8k	Haze	SW	Calm	0	0	Light haze	
Cape May, New Jersey	29.96	761.0	29.99	761.7	56	13.3	81	SW	32	14.3	.....	.....	10n	SW	.....	0.06	1.5	Light rain	
Castroville, Texas	29.45	748.0	30.20	767.1	42	5.6	83	NW	7	3.1	.....	.....	10s	.....	Calm	0.21	5.3	Threatening	
Cedar Keys, Florida	30.18	766.6	30.20	767.1	66	18.9	95	SE	4	1.8	.....	0	2s	.....	SE	0	0	Fair	
Charleston, South Carolina	30.12	765.0	30.17	766.3	65	18.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0.21	5.3	Threatening	
Charlotte, North Carolina	29.28	743.7	30.10	764.5	48	8.9	92	SW	2	0.9	.....	.....	10s;fg	.....	Calm	0.04	1.0	Cloudy	
Chattanooga, Tennessee	29.38	746.2	30.20	767.1	50	10.0	93	NE	4	1.8	.....	.....	10n	.....	Calm	0.19	4.3	Light rain	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	10	—12.2	38	W	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.54	750.3	30.29	769.4	20	— 6.7	70	W	7	...	.....	0	0	.....	.....	0.04	1.0	Clear	
Cincinnati, Ohio	29.62	752.3	30.31	769.9	34	1.1	52	NW	7	3.1	.....	.....	10s	.....	SW	0.33	8.4	Cloudy	
Cleveland, Ohio	29.41	747.0	30.18	766.6	27	— 2.8	76	SW	15	6.7	.....	1k	9ks	SW	SW	0.10	2.5	Cloudy	
Coleman City, Texas	28.52	724.4	30.31	769.9	30	— 1.1	78	N	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.33	745.0	30.21	767.3	32	0.0	59	W	12	5.4	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	
Concho, Texas	28.41	721.6	30.19	766.8	33	0.6	61	NW	.....	.....	2	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.82	757.4	30.32	770.1	36	2.2	100	N	12	5.4	.....	.....	10n	.....	Calm	0.73	18.5	Light rain	
Davenport, Iowa	29.61	752.1	30.30	769.6	21	— 6.1	71	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	23	— 5.0	73	E	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Deadwood, Dakota	25.39	644.9	.....	.....	27	— 2.8	42	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.22	742.2	30.48	774.2	32	0.0	59	NE	4	1.8	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Denison, Texas	29.55	750.6	30.40	772.1	32	0.0	59	N	7	3.1	.....	.....	10ks	.....	N	0.01	0.3	Cloudy	
Denver, Colorado	24.91	632.7	30.13	765.3	0	—17.8	39	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.31	744.5	30.25	768.3	23	— 5.0	73	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.44	747.8	30.16	766.1	21	— 6.1	86	W	10	4.5	.....	2k	0	W	.....	0.06	1.5	Clear	
Dodge City, Kansas	27.77	705.4	30.30	769.6	14	—10.0	82	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.47	748.5	30.23	767.8	16	— 8.9	66	S	2	0.9	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Duluth, Minnesota	29.30	744.2	30.05	763.3	0	—17.8	85	SW	3	1.3	.....	.....	10n	.....	W	0.91	0.3	Heavy snow	
Eagle Pass, Texas	29.49	749.0	30.25	768.5	48	8.9	56	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.40	746.7	29.46	748.3	44	6.7	92	SW	16	7.2	.....	.....	10s	.....	SW	0.16	4.1	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.35	745.5	30.10	764.5	30	— 1.1	57	W	19	8.5	.....	.....	8ks	.....	W	0.34	8.6	Cloudy	
Escanaba, Michigan	29.38	746.2	30.10	764.5	3	—16.1	46	W	9	4.0	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Florence, Arizona	28.68	725.9	30.18	766.6	34	1.1	89	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Threatening	
Fort Apache, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.97	710.4	29.90	759.4	22	— 5.6	86	NW	9	4.0	.....	10cs	0	NW	.....	0	0	Cloudy	
Fort Custer, Montana	27.00	685.8	.....	.....	29	— 1.7	89	W	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy	
Fort Davis, Texas	25.30	642.6	30.26	768.6	22	— 5.6	72	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.86	758.4	30.45	773.4	27	— 2.8	88	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	30	— 1.1	68	E	36	16.1	.....	0	5s	.....	E	0	0	Fair	
Fort Griffin, Texas	29.10	739.1	30.46	773.7	31	— 0.6	79	N	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Keogh, Montana	27.37	695.2	.....	.....	29	— 1.7	77	W	16	7.2	.....	.....	10ks	.....	W	0	0	Cloudy	
Fort McKavett, Texas	27.99	710.9	30.03	762.7	32	0.0	79	N	13	5.8	.....	.....	10s	.....	N	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.18	741.1	30.39	771.9	27	— 2.8	64	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.08	713.2	.....	.....	14	—10.0	81	W	34	15.2	.....	5c	0	W	.....	.....	0	Fair	
Fort Verde, Arizona	.....	.....	.....	.....	21	— 6.1	71	SW	.....	.....	1	.....	10s	.....	SW	.....	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.43	722.1	30.06	763.5	38	3.3	81	N	12	5.4	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy	
Galveston, Texas	30.14	765.5	30.19	766.8	66	18.9	89	NE	16	7.2	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Graham, Texas	29.28	743.7	30.41	772.4	30	— 1.1	78	N	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Grand Haven, Michigan	29.50	749.3	30.19	766.8	23	— 5.0	86	W	20	8.9	.....	10k	0	W	.....	Inap.	Inap.	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.46	748.3	30.47	773.9	30	— 1.1	89	N	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.49	749.0	30.32	770.1	26	— 3.3	52	W	8	3.6	.....	0	0	.....	.....	0.32	8.1	Clear	
Indianola, Texas	30.18	766.6	30.20	767.1	50	10.0	79	N	29	13.0	.....	.....	10s	.....	N	0.04	1.0	Threatening	
Jacksboro, Texas	29.21	741.9	30.42	772.7	30	— 1.1	89	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	30.19	766.8	30.21	767.3	64	17.8	94	NE	3	1.3	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Keokuk, Iowa	29.64	752.8	30.30	769.6	24	— 4.4	74	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.12	765.0	30.16	766.1	72	22.2	85	E	6	2.7	.....	2k	0	E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.13	765.3	30.15	765.8	58	14.4	94	S	8	3.6	.....	0	2s	.....	S	0	0	Fair	
Knoxville, Tennessee	29.18	741.1	30.20	767.1	46.5	8.1	92	NE	4	1.8	.....	.....	10n	.....	NE	0.59	15.0	Light rain	
La Crosse, Wisconsin	29.36	745.7	30.17	766.3	8	—13.3	53	S	8	3.6	.....	5cs	0	SW	.....	0	0	Fair	
La Mesilla, New Mexico	26.16	664.4	30.32	770.1	24	— 4.4	74	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear	
Laredo, Texas	29.85	758.2	30.20	767.1	51	10.6	79	N	8	3.6	.....	.....	10ks	.....	W	0.22	5.7	Cloudy	
Leavenworth, Kansas	29.48	748.8	30.39	771.9	25	— 3.9	75	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lewiston, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Little Rock, Arkansas	30.06	763.5	30.44	773.2	37	2.8	71	N	6	2.7	.....	8ck	0	W	.....	1.10	27.9	Fair	
Los Angeles, California	29.89	759.2	30.24	768.1	33.0	0.6	59	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.72	754.9	30.31	769.9	31	— 0.6	69	NW	14	6.3	.....	0	5s	.....	Calm	0.37	9.4	Fair	
Lynchburg, Virginia	29.36	745.7	30.04	763.0	50	10.0	86	W	2	0.9	.....	.....	10s	.....	S	0.01	0.3	Cloudy	
Madison, Wisconsin	29.15	740.4	30.22	767.6	13	—10.6	62	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.28	743.7	30.05	763.3	3	—16.1	73	W	12	5.4	.....	0	8s	.....	W	0.05	1.3	Cloudy	
Mason, Texas	28.62	726.9	30.49	774.4	34	1.1	79	NW	11	4.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Memphis, Tennessee	30.01	762.2	30.37	771.4	35	1.7	80	N	12	5.4	.....	.....	10s	.....	N	0.74	18.8	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.42	747.3	30.21	767.3	13	—10.6	81	W	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Mobile, Alabama	30.16	765.8	30.19	766.8	59.5	15.3	97	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.97	761 2	30.20	767.1	60	15.6	97	SE	1	0.4	.....	.....	10s;fg	.....	Calm	0.03	0.8	Cloudy	
Morgantown, West Virginia	29.13	739.9	30.14	765.5	45	7.2	61	SW	9	4.0	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Mt. Washington, N. H.	28.17	588.5	29.53	750.0	24	— 4 4	100	NW	72	32.2	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.77	756.1	30.33	770.4	39	3.9	82	NW	4	1.8	.....	.....	10s	.....	Calm	0.14	3.6	Threatening	
New Haven, Connecticut	29.73	755.1	29.84	757.9	51	10.(	100	SW	14	6.3	.....	.....	10n	.....	SW	0.14	3.6	Light rain	
New London, Connecticut	29.80	756.9	29.85	758.2	48	8.9	93	SW	14	6.3	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
New Orleans, Louisiana	30.11	764.8	30.17	766.3	62	16.7	88	SE	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.76	755.9	25.81	767.2	47.5	8.6	97	SW	32	14.3	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
New River, North Carolina	.....	.....	.....	.....	61	16.1	94	SW	.....	.....	1	8k	Fog	S	Calm	.....	.....	Cloudy	
New York, New York	29.73	755.1	29.91	759.7	47	8.3	100	SW	19	8.5	.....	.....	10n	.....	SW	0.01	0.3	Light rain	
Norfolk, Virginia	30.04	763.0	30.10	764.5	57	13.9	87	S	8	3.6	.....	8cs	Fog	Calm	Calm	Inap.	Inap.	Fair	
North Platte, Nebraska	27.27	692.6	30.15	765.8	1	—17.2	71	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	30.53	775.4	30.58	776.7	22.5	— 5.3	93	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	29.05	737.9	30.24	768.1	17	— 8.3	67	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.60	751.8	29.93	760.2	35	1.7	61	W	24	10.7	.....	.....	10ks	.....	W	0.15	3.8	Cloudy	
Pembina, Dakota	29.04	737.6	29.98	761.5	— 8	—22.2	100	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.09	766.8	30.23	767.8	61	16.1	100	E	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Philadelphia, Pennsylvania	29.90	759.7	29.95	760.7	48	8.9	93	SW	12	5.4	.....	.....	10n	....	SW	0.07	1.8	Light rain	
Phœnix, Arizona	28.98	736.1	30.89	784.6	34	1.1	61	NW	3	1.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Snowing	
Pike's Peak, Colorado	17.60	447.0	24 81	757.2	— 2	—18.9	85	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.57	751.1	30.46	773.7	32	0.0	79	N	13	5.8	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Ploche, Nevada	24.17	613.9	29.94	760.5	9	—12.8	57	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.30	744.2	30.13	765.3	35	3.3	63	NW	3	1.3	.....	.....	10s	.....	NW	0.16	4.1	Cloudy	
Port Huron, Michigan	29.41	747.0	30.12	765.0	20	— 6.7	85	W	17	7.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Portland, Maine	29.66	750.8	29.60	751.8	47	8.3	85	SW	14	6.3	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Portland, Oregon	30.54	775.7	30.62	777.7	31	— 0.6	89	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	63	17.2	94	S	10	8.5	.....	5cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.77	629.2	30.13	765.3	8	—13.3	78	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	64	17.8	94	NE	6	2.7	.....	1ck	Fog	Calm	NE	Inap.	Inap.	Clear	
Red Bluff, California	30.01	762.2	30.30	771.9	38.5	3.6	54	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.04	763.0	30.26	768.6	49	9.4	86	NW	10	4.5	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Rochester, New York	29.31	744.5	29.95	760.7	32	0.0	69	W	20	8.9	.....	0	8ks	.....	W	0.16	4.1	Cloudy	
Roseburg, Oregon	29.98	761.5	30.60	777.2	30	— 1.1	95	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.26	768.6	30.34	770.6	33	0.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.80	756.9	30.42	772.7	24	— 4.4	61	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.11	739.4	30.04	763.0	— 5	—20.6	64	E	10	4.5	.....	.....	10s	.....	E	0	0	Cloudy	
Salt Lake City, Utah	26.01	660.6	30.34	770.6	7	—13.9	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.47	748.5	30.69	764.3	40	4.4	82	N	9	4.0	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
San Diego, California	30.19	766.8	30.26	768.6	33	0.6	61	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.48	748.8	30.19	766.8	28	— 2.2	66	W	21	9.8	.....	2k	5ks	W	W	0.02	0.5	Fair	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	43	6.1	100	W	28	12.5	.....	.....	10n	.....	W	0.05	1.3	Light rain	
San Francisco, California	30.27	768.8	30.34	770.6	40	4.4	82	SE	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.54	592.8	29.88	758.9	7	—13.9	31	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.12	765.0	30.21	767.3	63	17.2	100	W	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Shreveport, Louisiana	30.10	764.5	30 92	770.1	45	7.2	92	N	7	3.1	.....	.....	10n	.....	Calm	1.11	28.2	Light rain	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.12	765.0	30.16	766.1	63	17.2	94	S	16	7.2	.....	5k	2s	SW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.57	649.5	29.63	752.6	22	— 5.6	57	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.67	753.6	30.40	772.1	27	— 2.8	71	W	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Springfield, Massachusetts	29.71	754.6	29.84	757.9	44	6.7	76	W	8	3.6	.....	0	8s	.....	W	0.23	5.8	Clearing	
Stockton, Texas	27.26	692.4	30.26	768.6	24	— 4.4	6	NE	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.69	754.1	29.74	755.4	45	7.2	100	W	24	10.7	.....	.....	10n	.....	SW.	0.02	0.5	Light rain	
Toledo, Ohio	29.46	748.3	30.18	766.6	28	— 2.2	77	W	10	4.5	.....	8k	0	W	.....	0.11	2.8	Cloudy	
Tucson, Arizona	27.62	701.5	30.17	766.3	20	— 6.7	55	SW	2	0.9	.....	0	2ks	.....	S	0	0	Fair	
Umatilla, Oregon	30.23	767.8	30.77	781.5	22	—5.6	72	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.33	745.0	30.18	766.6	39	3.9	91	NE	7	3.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Vicksburg, Mississippi	30.01	762.2	30.28	769.1	50	10.0	93	N	9	4.0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Virginia City, Montana	24.48	621.8	29 96	761.0	3	—16.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.92	760.0	30.32	770.1	25	— 2.2	88	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.91	759.7	30.02	762.5	51	10.6	93	NW	5	2.2	.....	.....	10n	.....	NW	0.06	1.5	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	100	NW	.....	.....	1	.....	10n	.....	Calm	0.01	0.3	Light snow	
Wilmington, North Carolina	30.07	763.8	30.15	765.8	66	18.9	89	S	12	5.4	.....	2k	5s	S	S	0	0	Fair	
Winnemucca, Nevada	25.99	660.1	30.35	770.9	9	—12.8	78	E	9	4.0	.....	1c	0	NE	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.75	755.6	29.79	756.7	48	8.9	92	SW	22	9.8	.....	.....	10ks	.....	SW	0.08	2.0	Cloudy	
Yankton, Dakota	28.77	730.7	30.16	766.1	16	— 8.9	66	SW	17	7.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Yuma, Arizona	30.04	763.0	30.19	766.8	37	2.8	31	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	71	21.7	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	73	22.8	86	Calm	0	0	.....	2c	5cs	Calm	.....	0	0	Fair	James Gall.
Navassa, W. I.	30.01	762.2	30.09	764.3	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	81	27.2	87	E	.....	.....	2	8c	5k	E	.....	0.100	2.54	Fair	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.38	746.2	29.93	760.2	80	26.7	80	N	.....	.....	2	.....	10ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.09	764.3	30.12	765.0	72	22.2	81	N	6.8	3.2	.....	0	0	.....	.....	Blank	Blank	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.03	762.0	29.08	753.9	—27.0	—32.8	.....	NW	22	9.8	.....	.....	9s	.....	NW	0	0	.....	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,701.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,047.8 ft., or 1,843.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,806 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft. ; or 1,670 m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 134.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.31 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.25‡	768.3‡	.....	.....	64	17 8	89	SE	1	0.4	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Foggy	
Navy Yard, Portsmouth, N. H	29.67‡	753.6‡	.....	.....	46	7.8	77	WSW	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Alaska, S. 23° 41′ W. 71° 07′...	*																				
Colorado, New York, N. Y.	29.96‡	761.0‡	.....	.....	72	22.2	85	SSE	.....	.....	3	.....	2	.....	N	.....	.....	.....	.....	Hazy	
Constitution, N. 11° 25′, W. 77° 41′...	29.86‡	758.4‡	.....	.....	50	10.0	.....	SW	4	1.8	.....	.....	Mist	.....	.....	0.05	1.3	.....	.....	Rainy	
Enterprise, Smyrna, Turkey	29.96‡	761.0‡	.....	.....	78	25.6	78	ENE	.....	.....	6	.....	3	.....	ENE	.....	.....	Following	ENE	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.40‡	772.1‡	.....	.....	54	12.2	61	ENE	.....	.....	4	.....	2	.....	ENE	.....	.....	Mod'ate	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.14‡	765.5‡	.....	.....	60	15.6	88	SSW	6	2.7	.....	.....	10	.....	WNW	0	0	.....	.....	Cloudy	
Kearsarge, Key West, Fla.	30.30‡	769.6‡	.....	.....	36	2.2	80	E	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Lackawana, N. 36° 40′, W. 129° 27′...	†	30.17‡	766.3‡	.....	.....	72	22.2	90	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	Smooth	.....
Marion, S. 22° 20′, W. 40° 20′...	†	30.43‡	772.9‡	.....	.....	52	11.1	93	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	Smooth	NE
Michigan, Erie, Pa.	30.02‡	762.5‡	.....	.....	78	25.6	86	NNE	.....	.....	4	.....	8	.....	NE; Calm	Mod'ate	Mod'ate	Cross	E; NE	Cloudy	
Monocacy, Shanghai, China	30.04‡	763.0‡	.....	.....	30	— 1.1	78	W	.....	.....	5	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.31‡	769.9‡	.....	.....	41	5.0	91	E	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Nipsic, Cumana, Venezuela, S. A.	30.18‡	766.6‡	.....	.....	63	17.2	100	Calm	0	0	..	.....	.....	.....	.....	0.30	7.6	.....	.....	Foggy	
Onward, Callao, Peru	†	30.02‡	762.5‡	.....	.....	76	24.4	73	ENE	.....	.....	2	.....	5	.....	ENE	.....	.....	.....	Smooth	D. clouds
Palos, Tientsin, China	29.92‡	760.0‡	.....	.....	66.5	19.2	97	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Mod'ate smooth	W	Foggy	
Passaic, Washington, D. C.	30.26‡	768.6‡	.....	.....	23	- 5.0	100	ESE	.....	.....	2–3	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Pensacola, Callao, Peru	30.03‡	762.7‡	.....	.....	51	10.6	93	S	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Powhatan, Off Ellis I'd., N. Y. Harbor	29.91‡	759.7‡	.....	.....	68	20.0	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Quinnebaug, Leghorn, Italy	29.92‡	760.0‡	.....	.....	48	8.9	100	WSW	.....	.....	4	.....	10	.....	.....	Light	Light	.....	.....	Drizzling	
Ranger, N. 38° 35′, W. 139° 57′...	30.33‡	770.4‡	.....	.....	59	15.0	54	E	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Richmond, Hong-Kong, China	30.38‡	771.6‡	.....	.....	55	12.8	80	SE	.....	.....	3	.....	2	.....	S	.....	.....	Smooth	.....	Clear	
Rio Bravo, Brownsville, Texas	†	30.20‡	767.1‡	.....	.....	64	17.8	78	E	.....	.....	1	.....	10	.....	.....	.....	Smooth	.....	Cloudy	
Santee, Annapolis, Md	30.33‡	770.4‡	.....	.....	53	11.7	93	N	6	2.7	.....	.....	10	.....	N	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	30.04‡	763.0‡	.....	.....	52	11.1	79	W	.....	.....	4	.....	10	.....	W	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa.	29.92‡	760.0‡	.....	.....	70	21.1	80	N	.....	.....	2	.....	5	.....	N	.....	.....	Smooth	.....	Fair	
Swatara, N. 38° 54′, W. 42° 25′...	29.98‡	761.5‡	.....	.....	46	7.8	100	WSW	12	5.4	.....	.....	10	.....	WSW	0.1	3.	.....	.....	Raining	
Tennessee, Norfolk, Va.	30.18‡	766.6‡	.....	.....	46	7.8	77	NE	.....	.....	6	.....	8	.....	NE	.....	.....	Rough	N	Cloudy	
Trenton, Port Mahon, Minorca, Med	30.11‡	764.8‡	.....	.....	58	14.4	88	SW	6	2.7	.....	.....	10	.....	Calm	0	0	.....	.....	D. clouds	
Tuscarora, La Union, S. Salvador.	30.24‡	768.1‡	.....	.....	67	19.4	69	E	.....	.....	3	.....	5	.....	E	0	0	.....	.....	Fair	
Wabash, Boston, Mass.	29.96‡	761.0‡	.....	.....	81	27.2	63	NNE	.....	.....	3–4	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Wyoming, Villafranca, France	29.24‡	742.7‡	.....	.....	52	11.1	93	NW	9	4.0	.....	.....	10	.....	.....	.....	.....	.....	.....	Light rain	
	30.33‡	770.4‡	.....	.....	55	12.8	68	ENE	.....	.....	1–2	.....	10	.....	E	.....	.....	Smooth	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; *the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from*; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm.

*Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'er	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

ALLAN LINE MARINE SERIES.

S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 45° 00′, W. 52° 48′		29.90‡	761.0‡	34	1.1		W			6		10		WSW		Cross	SW; W	Snow showers	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr
S. S. Indiana, R. W. Sargent																			
Philadelphia, Pa				49	9.4		SW			2		9		SW	Mod'ate			Cloudy	
S. S. Ohio, Henry Morrison,																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 53° 08′, E. 4° 04′		30.38‡	771.6‡	56.0	13.3	69	S			2		0			0	Smooth	S	Clear	S. Risius.
S. S. Ohio, G. Meyer.																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 13′, E. 170° 31′	†	29.97‡	761.2‡	60	15.6	82	W			6		57		W		Heavy	W	Clear	D. A. Joyce.
S. S. Gaelic, Davidson, N. 42° 09′, E. 169° 31′	†	29.61‡	749.5‡	42	5.6		W			5	c		W			Rough	WNW	Snowing	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	True course toward.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Lo'er 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin																			F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann. N. 47° 02′, W. 125° 03′		30.44‡	773 2‡	44	6.7		S			2		10				Heavy	NW	Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China. †.		30.12‡	765.0‡	66	18.9	84	E			2					0	Smooth		Misty	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffith																			D. E. Griffith.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson N. 40° 29′, W. 72° 50′	29.88‡	58.9‡	40	4.4		S	45	20.1			10		SW	2 h rs	Light	SW	Misty	
S. S. Nederland, S. Stokes N. 46° 05′, W. 35° 54′ †.	29 79‡	756.7‡	56	13.3		NNE			6		5		NNE		High	swtosw	Squally	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																		J. W. Jennings.
S. S. Britanic, H. Perry																		J. Jones.
S. S. Celtic, B. Gleadell																		
S. S. Republic, P. J. Irving																		G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MARINE SERIES—Miscellaneous. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																		Mehaffey.
Schr. Addie Fuller, J. Jorgensen																		J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																		L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 01′, E. 45° 43′ *.	29.85‡	758.2‡	60	15.6		NNE			2		10		NNE		Long	W	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I. †.	30.23‡	767 8‡	74	23.3		E												
Iron Cross, W. Randall, N. 51° 30′, W. 7° 50′	30 18*	766.6‡	49.8	9.9	99	SSW			5		5		SSW		Slight	Mod'ate	SW	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known. §Position probably given for noon, local time.

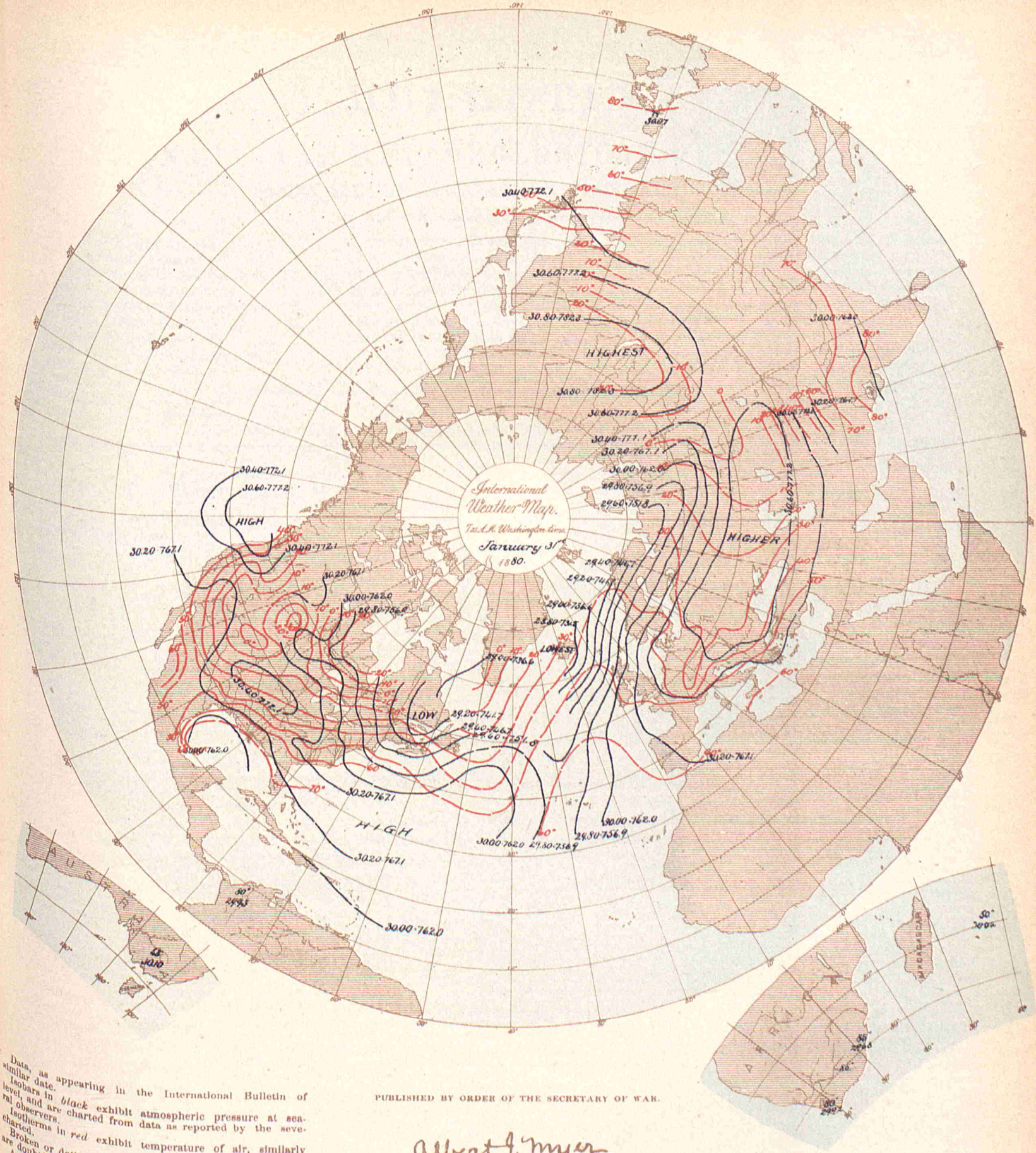
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 1, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.9	.....	.....	.....	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	
Nemours	.....	.....	30.22	767.6	59.4	15.2	84	N	.....	.....	2	.....	4	.....	.....	0	0	Cloudy.....	Kesxuche.
Algiers	.....	.....	30.24	768.2	55.8	13.2	83	ENE	.....	.....	2	.....	10	.....	.....	0.091	2.3	Covered	Tourilliere.
La Calle	.....	.....	30.24	768.2	57.2	14.0	75	WSW	.....	.....	1	.....	10	.....	.....	0.138	3.5	Covered	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Saida	.....	.....	30.18	766.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Tebessa	.....	.....	30.19	766.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Geriville	.....	.....	30.27	768.8	46.9	8.3	77	W	.....	.....	1	.....	10	.....	.....	0.024	0.6	Covered	Watrin.
Laghouat	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Biskra	.....	.....	30.25	768.4	52.9	11.6	61	SW	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Covered.....	Bertraud.
.....	.....	.....	30.21	767.3	54.3	12.4	98	WNW	.....	.....	1	.....	0?	.....	.....	Inap.	Inap.	Covered?.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.00	762.0	30.61	777.5	16.5	— 8.6	100	.....	.....	.....	.....	8	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.78	756.4	30.60	777.3	28.0	— 2.2	75	ESE	0.2	0.1	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.65	753.1	30.60	777.2	27.0	— 2.8	74	.....	.....	.....	.....	0	.....	.....	Inap.	Inap.	.....	Julius Mikolik.
Gratz	29.28	743.6	30.61	777.5	32.4	0.2	63	S	.....	.....	2	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	29.08	738.7	30.64	778.3	23.5	— 4.7	81	NNW	.....	.....	1	0	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	29.03	737.3	30.47	773.9	26.2	— 3.2	89	Calm	.....	.....	0	0	.....	.....	0	0	.....	The Staff.
Lemberg	29.51	749.5	30.55	776.0	36.5	2.5	61	S	.....	.....	1	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.29	769.4	30.41	772.4	45.3	7.4	72	WNW	.....	.....	1	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	30.12	765.0	30 61	777.6	35.6	2.0	85	E	.....	.....	2	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.29	769.4	30.59	777.0	32.5	0.3	73	Calm	.....	.....	0	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.30	769.7	30.41	772.3	55.4	13.0	19	E	.....	.....	1	0	.....	.....	0	0	Clear.....	P. Busin.
Vienna	29.77	756.2	30.53	775.4	35.2	1.8	62	SE	.....	.....	1	0	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory.
Furnes	30.14	765.6	30.35	770.9	39.9	4.4	63	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.34	770.5	30.36	771.1	40.3	4.6	81	SW	.....	.....	1	.....	0	.....	.....	0	0	Light fog....	M. Pierrot.
.....	30.23	767.9	30.36	771.1	36.0	2.2	66	S	.....	.....	0	.....	10	.....	.....	0	0	Foggy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.92	760.0	30.02	762.5	47.0	8.3	.....	SW	12	5.4	.....	.....	7	.....	.....	0.005	0.13	D. clouds	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh, (Observatory)	29.86	758.4	30.10	764.5	49.0	9.4	.....	SSW	15	6.7	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.22	767.6	48.0	8.9	.....	SE	15	6.7	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.69	754.1	30.21	767.3	44.4	6.9	.....	S	4	1.8	.....	.....	3	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	75	23.9	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.22	767.6	30.32	770.1	52.0	11.1	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. Todd.
Cardington	.....	.....	30.30	769.6	46.4	8.0	.....	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham (School M. E.)	30.21	767.3	30.34	770.6	45.1	7.3	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Misty	F. Magauran, Q. M. S'gt., R.E.
Dorchadee	30.08	764.0	30.12	765.0	47	8.3	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.30	769.6	30.33	770.4	49	4.4	.....	WSW	.....	.....	1	.....	1	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	30.05	763.3	30.29	769.4	47.8	8.8	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, Natal	27.56	700.0	29.78	756.4	81.0	27.2	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.57	751.1	29.80	756.9	86	30.0	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.00	762.0	50	10.0	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	M. O'Donaghue,
Gibraltar, Mediterranean.§	30.06	763.5	30.11	764.8	57.1	13.9	.....	E	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.86	758.4	30.06	763.5	48.5	9.2	.....	SW	.....	.....	6	.....	10k	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.30	769.6	30.31	769.9	44	6.7	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.16	766.1	30.34	770.6	39.4	4.1	.....	WSW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	The Staff, for G.B.Airy.
Guernsey	30.09	764.3	30.32	770.1	46.5	8.1	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.38	771.6	30.50	774.7	51	10.6	.....	ESE	.....	.....	2	.....	0	.....	.....	0	0	Very fine	M. P. Moyle.
Holyhead	30.15	765.8	30.23	767.8	46	7.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	30.07	763.8	30.37	771.4	45.0	7.2	.....	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Kew (Observatory)	30.30	769.6	30.34	770.6	37.7	3.2	.....	S	3	1.3	.....	.....	1	.....	.....	.....	.....	Blue sky	The Met'g'l Office.
Leicester (Museum)	30.03	762.7	30.29	769.4	48.0	8.9	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Misty	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.10	764.5	30.17	766.3	60	15.6	.....	NE	.....	.....	2	9ck	.....	.....	.....	.....	.....	Showery	A. King.
Nairn	29.83	757.7	29.92	760 0	50	10.0	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.08	764.0	68.5	20.3	.....	NE	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.10	764.5	30.29	769.4	40.6	4.8	.....	Calm	.....	.....	0	.....	0	.....	.....	0.030	0.76	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.75	755.6	30.28	769.1	50.2	10.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.09	764.3	30.35	770.9	38	3.3	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.21	767.3	30.28	769.1	49.1	9.5	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	John Merrifield.
*Roche's Point	30.10	764.5	30.20	767.1	48	8.9	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
St. Ann's Head	30.08	764.0	30.24	768.1	46	7.8	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.88	758.9	43	6.1	.....	W	10	4.5	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.46	773.7	30.53	775.4	39.4	4.1	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	Serg't W. H. Lyne.
Sheffield	30.17	766.3	30.26	768.6	52.1	11.2	.....	SW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.11	764.8	30.14	765.5	46.5	8.1	88	SW	.....	.....	7	.....	4	.....	.....	0.034	0.86	D. clouds	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.23	767.8	47.0	8.3	.....	S	11	4.9	.....	.....	0	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straifield, Turgiss	30.11	764.8	30.34	770.6	45.3	7.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.22	767.6	30.30	769.6	51	10.6	.....	SE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.04	763.0	30.06	763.5	51.6	10.9	.....	S	32	14.3	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.95	760.7	29.99	761.7	81.2	27.3	56	NW	3.2	1.4	.....	1c	1cs	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2	.....	.....	92	33.3	.....	WNW	.....	.....	.....	1c	2c	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.68	677.7	.....	.....	71	21.7	.....	SE	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.13	765.3	71.0	21.7	76	S	.....	.....	3	.....	0	.....	.....	0	0	Star light	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.07	763.8	50.8	10.4	.....	SW	.....	.....	3	.....	10k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.02	762.6	78.3	25.7	79	SE	18.0	8.0	.....	.....	10	.....	.....	0.26	6.6	Misty	R. L. J. Ellery.
Melbourne (Observatory)	30.07	763.8	30.16	766.0	72.0	22.2	54	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.87	758.7	42	5.6	.....	NW	.....	.....	4	10	5	SW	.....	0.5	13.	.....	
North Unst, Shetland Is	.....	.....	29.85	758.2	.....	.....	.....	SW	.....	.....	6	10	10	.....	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
City of Agra, S. 55° 30', W. 61° 00'	.....	.....	29.26‡	743.2‡	46.8	8.2	.....	WNW	.....	.....	2	.....	8	.....	.....	5mo th	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 36° 00', W. 31° 30'	.....	.....	30.16‡	766.1‡	73	22.8	.....	N	.....	.....	4	2c	.....	WNW	.....	.....	.....	Blue sky	Capt. W. M. Grieve.
Barque Commewyne, N. 50° 20', W. 10° 25'	.....	.....	30.09‡	764.3‡	52	11.1	.....	SSE	.....	.....	6	.....	1	.....	.....	.....	.....	Misty	Capt. Jas. Buchan.
Bqte Fylde, N. 33° 50', W. 38° 40'	.....	.....	29.99	761.7	60	15.6	.....	NE	.....	.....	7	.....	7	.....	.....	7	NNE	Showery	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.90‡	759.4‡	71	21.7	.....	SSW	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 40', W. 76° 50'	.....	.....	30.11‡	764.8‡	.....	.....	.....	E	.....	.....	1	.....	4	.....	.....	1	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 7° 31,' E. 85° 48'	.....	.....	29.90‡	759.4‡	81.1	27.3	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Raining	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P. Maclear, R.N.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.24	666.5	29.96	761.2	69.0	15.0	76	SE			3		1d			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish plies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.27	768.8	30.32	770.0	33.1	0.6	85	S			2		0						
Farõe	30.27	768.8	30.29	769.3	33.4	0.8	83	WSW			2		1						
Godthaab (Greenland)	28.93	734.8	28.97	735.9	— 0.4	—18.0	95	ENE			4		9						
Stykkisholm (Iceland)	29.06	738.0	29.10	739.1	29.1	— 1.6	84	SW			7		8						Snowing.
Thorshavn (Farõe)	29.65	753.1	29.69	754.0	40.3	4.6	79	SW			4		6						
Vestervig	30.11	764.9	30.23	767.7	37.6	3.1	90	S			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.84	757.9	30.39	771.9	41.9	5.5	89	N			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.29	769.4	30.41	772.3	37.4	3	69	E			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	30.09	764.3	30.36	771.2	39.0	3.9	76	SSW			1					0	0	Light fog	Klein, Commandant.
Avignon, Normal School	30.34	770.7	30.42	772.7	52.3	11.3	54	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.83	757.7	30.41	772.5	40.8	4.9	69	SE			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.10	764.6	30.39	771.8	36.4	1.9	67	E			1		0			0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.53	750.0	30.48	774.1	33.6	0.9		NE			1		0			0	0	Clear	A. Carré, Director.
Bordeaux	30.08	764.0	30.28	769.0	55.8	13.2	56	ESE			1	2c				0	0	Almost clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.57	751.1	30.49	774.5	41.4	5.2	63	N			1		0			0	0	Clear	Mariot, Director.
Bourges, Normal School	29.79	756.7	30.36	771.2	44.6	7	85	N			1		1		N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.09	764.2	30.33	770.4	59.0	15.0	72	Calm			0		0			0	0		Ch. de Rermaree, Dir.
Caen, Normal School	30.30	769.7	30.39	771.9	41.7	5.4	78	S					1		S	0	0	Clear	M. Bletrin, Director.
Carcassonne, N. School	29.90	759.5	30.32	770.1	55.6	13.1	62	E			2		1		E	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.10	764.4	30.43	773.0	40.1	4.5	90	WSW			1		0			0	0	Misty	Jadot, Director
Chartres, Normal School	29.78	756.4	30.36	771.1	47.8	8.8	80	SE			1		0			0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	29.99	736.4	30.36	771.2	53.6	12.0	47	N			1		0			0	0	Misty	Alluard, Director.
Commercy, Normal School	29.51	749.5	30.43	772.8	30.6	— 0.8	77	E			1		0			0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.29	743.9	30.43	772.9	52.3	11.3	41	N			1		8		NE	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.64	752.8	30.45	773.3	37.0	2.8		ENE			1	2c				0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.13	765.4	30.36	771.1	50.0	10.0	84	SSE			1		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.08	763.9	30.36	771.1	38.8	3.8	86	E			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.7	30.46	773.7	29.3	— 1.5	72	SSW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.23	767.7	30.34	770.6	47.5	8.6	83	E			1		0			0	0	Clear	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.79	756.7	30.44	773.1	40.8	4.9	81	SE			1		5			0	0	Light fog	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.10	764.6	30.37	771.6	58.5	14.7	84	S			1		10		SE	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.35	745.5	30.46	773.6	33.3	0.7	56	S			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	25.03	635.7	30.34	770.7	35.2	1.8	67	SE			2		4		E	0	0		M. Cave, for Dr. Fines.
Nîmes, Normal School	30.34	770.7	30.37	771.5	58.3	14.6	60	W			3		5	SW	W	0	0	Cloudy	Capt. Boissière, Director.
Perpignan	30.21	767.2	30.43	773.0	60.6	15.9	69	S			1		0			0	0	Clear	M. Boyer, Director.
Pic du Midi (Plantade) H. P.	30.27	768.9	30.38	771.6	50.9	10.5	79	NE	1.8	0.8			5	E	E	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.	22.66	575.5			32.9	0.5							1		S	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Privas, Normal School																			
Puy de Dome (Summi) Obs	29.36	745.8	30.40	774.4	52.2	11.2	52	N			1		0			0	0	Clear	M. Tallieu
Rochefort, Naval Obs'y	25.42	645.6			38.5	3.6	71	E			1		2			0	0	Fog & mist.	Alluard, Director.
Rouen, Normal School	30.32	770.0	30.35	770.8	52.0	11.1	76	ESE			1		0			0	0	Clear	Lt. E. Decante, Director
Saint Malo (Port) Obs'y	30.27	768.8	30.35	771.0	40.1	4.5	89	ESE			1		0			0	0	Clear	Frère Lucard, Director
Saint Maur (near Paris)	30.30	769.5	30.33	770.3	49.3	9.6	55	SSE			1		0			0	0	Misty	Lt. Hercouet, Director
Tarbes, Normal School	30.22	767.6	30.39	771.8	41.5	5.3	70	S			1		0			0	0	Clear	E. Renou, Director.
Toulouse, Observatory	29.20	741.8	30.28	769.2	59.0	15	48	NE			1					0	0		T. Huguet, Director
Tours	29.63	752.7	30.37	771.3	56.3	13.5	62	SE			3		2			0	0	Slightly cld'y	B. Bailland, Dir.
Versailles, Observatory	30.15	765.8	30.35	770.8	45.7	7.6	72	SE			1		0			0	0	Clear	M. de Tastes.
Villefranche-sur-Saone, N.S	29.87	758.6	30.36	771.1	43.5	6.4	62	SW			1		0			0	0	Clear	Dr. A. Berigny, Director
	29.62	752.4	30.37	771.3	41.0	5	91	SE			1					0	0	Misty	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.2	30.00	761.9	73.8	23.2										0.67	17.		L'Abbé Marchési
Paris, Montsouris Obs'y	30.10	764.6			41.2	5.1	76	ESE			1		0			0	0		Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.20	767.0	30.22	767.6	45.1	7.3	100	ENE	3.4	1.5		10ck		W		0	3	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,3 6 m., or 7,768 ft: Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.56	750.8	30.43	773.0	18.9	— 7.3	76	NE			6		4cs			0	0		Prof. Dr. Hoh.
Berlin	30.18	766.6	30.36	771.2	39.6	4.2	52	SW			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.92	760.0	30.46	773.7	37.0	2.8	59	SS			2		0			0	0		Royal University Obs'y
Carlsruhe	30.00	761.9	30.46	773.6	28.0	— 2.2	83	SE			0		0			0	0		Albert Senz.
Cassel	29.78	756.3	30.39	771.9	24.8	— 4.0	83	E			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.15	765.7	30.54	775.6	23.0	— 5.0	66	SE			0		5			0	0		Physical Society.
Friedrichshafen	28.97	735.8	30.50	774.8	27.5	— 2.5	94	SE			2		10			0	0	Dense fog.	Chief Telegrapher Wilhelm.
Hamburg	30.26	768.7	30.34	770.5	29.7	— 1.3	82	SW			2		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.29	769.4	30.31	769.8	33.4	0.8	83						0			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.38	771.7	30.47	773.9	30.9	— 0.6	65	SW			2		0			0	0		Prof. E. Luther.
Köslin			30.39	771.8	34.5	1.4		Calm			0		0			0	0		H. Müller.
Leipsic Observatory	29.97	761.2	30.41	772.5	32.4	0.2	74	SW			2		1			0	0	Hazy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.13	765.4	30.37	771.3	28.4	— 2.0	68	Calm			0		0			0	0		Dr. Assmann.
Memel	30.30	769.5	30.34	770.7	27.7	— 2.4	96	S			3		0						Reinbrecht & Issermann
Munich (München)	28.54	724.9	30.43	772.8	29.3	— 1.5	79	N			2		0			0	0		Dr. C. Lang.
Neufahrwasser	30.44	773.1	30.45	773.5	30.6	— 0.8	77	SSE			2		0			0	0		A. Lothes.
Neustadt (Palatinate)	29.87	758.8	30.41	772.3	27.5	— 2.5		Calm			0		0			0	0		Reallehrer Dicknether.
Posen	30.14	765.5	30.45	773.3	33.6	0.9	68	Calm			0		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.89	759.3	30.48	774.3	27.7	— 2.4	81	Calm			0		5			0	0		Imp. University Observatory.
Stuttgart	29.45	747.9	30.45	773.3	32.0	0.0	74	E			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.32	770.1	30.51	775.0	34.5	1.4	64	SE			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.89	733.8	30.49	774.4	29.8	— 1.2	85		0.2	0.1						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.31	769.8	30.33	770.4	35.2	1.8	96	SE			3		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.03	762.7	30.43	772.8	53.4	11.9		NE			1.5		5					⅛ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.8	30.01	762.1	73.9	23.3	45	WNW	8	3.6			4	WNW		0	0	D. clouds	
Deesa	29.52	749.8	30.00	761.9	82.6	28.1	20	SSW	9.4	4.2			7	WSW		0	0	Misty	
Bombay	29.89	759.2	29.93	760.2	79.9	26.6	66	NNW	17	7.6			0			0	0	Blue sky	
Poona (Yarrowda)	28.07	712.9	29.90	759.4	86.5	30.3	23	N	5	2.2			2		W	0	0	D. clouds	
Belgaum	27.39	695.6	29.89	759.2	83.9	28.8	29	E	2	0.9			2	W	W	0	0	D. clouds	
Lahore	29.25	742.9	30.02	762.4	67.3	19.6	40	Calm	0.8	0.4			10			0	0	Overcast	
Roorkee	29.06	738.1	29.98	761.6	66.8	19.3	37	NW	2.2	1.0			9			0	0		
Agra	29.49	749.0	30.07	763.8	69.7	20.9	44	W	4.0	1.8			0			0	0		
Nagpur	28.92	734.4	29.97	761.2	79.5	26.4	21	Calm	2.5	1.1			1			0	0	Blue sky	
Jubbulpore	28.62	726.9	30.02	762.5	68.7	20.4	51	Calm	0.6	0.3			4			0	0	D. clouds	
Lucknow	29.60	751.9	29.99	761.7	69.3	20.7	34	NNW	0.7	0.3			0			0	0	Blue sky	
Allahabad	29.69	754.1	30.02	762.4	64.1	17.8	60	Calm	1.7	0.8			1			0	0	D. clouds	
Patna	29.82	757.4	30.01	762.1	69.9	21.1	49	W	0.8	0.4			4	W	W	0	0	D. clouds	
Hazaribagh	27.95	710.0	30.02	762.4	67.8	19.9	43	NW	4.3	1.9			5			0	0	D. clouds	
Cuttack	29.90	759.4	29.98	761.5	75.5	24.2	60	NE	0.5	0.2			0			0	0	Blue sky	
Jalcutta (Alipore)	29.96	761.0	29.98	761.5	68.1	20.1	64	W	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.58	751.4	29.98	761.5	72.7	22.6	52	NE	1.6	0.7			0			0	0	Blue sky	
Chittagong	29.88	759.0	29.97	761.3	70.8	21.6	73	WNW					0			0	0		
Sibsagar	29.66	753.2	30.00	762.1	64.6	18.1	75	ENE	1.4	0.6			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.99	761.8	30.42	772.6	51.1	10.6	24	E	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Milan	29.91	759.7	30.46	773.7	39.7	4.3	85	W			1		7	W		0	0		Prof. Schiaparelli.
Padua	30.33	770.4	30.45	773 3	45.1	7.8	44	WNW	1.8	0.8			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.54	750.2	30.48	774.1	41.9	5.5	75	NNE	3.1	1.4			9	NE		0	0		Prof. P. F. Denza.
Genoa	30.21	767.2	30.40	772.2	50.0	10.0	33	NE	8.7	3.9			10	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.49	723.6	30.46	773.7	44.4	6.9	49	W			2		9			0	0		Prof. D. C. Bruno.
Pesaro	30.39	772.0	30.45	773 3	40.5	4.7	76	NW	17.4	7.8			0			0	0		Prof. Luigi Guidi.
Florence	30.11	764.8	30.38	771.6	55.4	13.0	34	N			4		1			0	0		Cav. F. Meucci.
Leghorn	30.31	769.8	30.39	772.0	53.1	11.7	44	ENE	4.9	2.2			6			0	0		Prof. P. Monte.
Rome	30.15	765.8	30.33	770.4	55.9	13.3	59	N	1.3	0.6			8			0	0		Prof. P. S. Ferrari
Lecce	30.10	764.6	30.36	771.2	53.6	12.0	73	SSW	0	0			9			0	0		Prof. C. De Giorgi
Cosenza	29.44	747.8	30.35	770.9	48.9	9.4	69	NW	0.7	0.3			9			0.067	1.7		Prof. D. Conti.
Cagliari	30.02	762.4	30.22	767 5	56.1	13.4	84	NW			2		10	SE		0.209	5.3		Prof. A. Pacinotti.
Palermo	29.99	761.8	30.25	768 3	54.9	12.7	76	NE	2.5	1.1			9			0.047	1.2		Prof. G. Cincciatore.
Syracuse	30.19	766.8	30.23	767.9	53.1	11.7	88	ESE	16.1	7.2			10	ESE		0.583	14.8		Prof. V.G. Guiliano.
Sub-Series. Naples, S. R.	29 78	756.5	30.32	770 1	52.7	11.5	63	NW	0	0			10			0.020	0.5		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.29	769.3	30.31	769.9	40.8	4.9	91	NNE	5.8	2.3			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	47.4	8.6	93	SW	0.2	0.1			0			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.18	766.6	30.26	768.6	33.7	0.9	77	N	4.0	1.8			1s			0	0	Fair	The Staff.
Wakayama	30.22	767.6	30.27	768.8	40.2	4.6	93	NNE	1.6	0.7			0			0	0	Clear.	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.8	30.26	768.5	48.2	6.2	57	Calm			0	0	0			0	0	Very clear.	Prof. L. Perez.
Leon	24.46	621.2	30.22	767.6	53.6	12.0	75	Calm			0	0	0			0	0	Fine	Prof. M. Leal.
Mazatlan	29.70	756.6	30.05	763.3	60.1	15.6	74	NW			8	8c	0	SW		0	0	Windy	F. Quijano, C. E.
Mexico, Central Observatory	23.08	586.3	30.26	768.3	44.2	6.8	52	Calm	0	0		0	0			0	0	Fine	The Staff
Morelia	23 99	609.3			55.9	13.3	61	SE			3	0	0			0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	28.96	608.5	30.06	763.4	46.0	7.8	68	SW			1	0	0			0	0	Very clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.6	30.40	772.2	39.2	4.0	50	Calm	0	0			0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.1	30.17	766.4	51.8	11.0	49	E			1	10	0	W		0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.03	762.7	30.04	763.0	70.0	21.6	94	NE			1	0	0			0.02	0.5	Very clear.	Prof. M. M. Chazaro.
Vera-Cruz	29.93	760.2	29.96	760.9	72.5	22.5	82	Calm	0	0			6sk			0	0	Cloudy	Prof. J. Rossell
Zacatecas																			J. C. Castrillon.

NOTE.—The elevation of Colima, is 507.3 m., or 1,664.4 ft.; Guadalajara 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.36	771.2	30.36	771.2	37.6	3.1	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.25	769.3	30.34	770.7	36.1	2.3	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.33	770.3	30.33	770 3	37.6	3.1	.....	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.34	770.6	30.34	770.6	34.2	1.2	90	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Utrecht	30.31	769.8	30.35	771.0	37.4	3.0	77	SSE	.....	.....	0	0	.....	.....	.....	0	0	Clear	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.91	759.8	29.97	761.2	43.2	6.2	94	S	19.9	8.9	.....	.....	10	.....	.....	2.165	55.0	Raining.....	
Brönø	29.48	748.7	29.52	749.7	41.0	5.0	69	WSW	36	16	.....	.....	10	.....	.....	0.079	2.0	.....	
Christiana	29.80	756.9	29.95	760.7	41.0	5.0	83	SSE	11	5	.....	.....	5	.....	.....	0	0	.....	
Tromsö	28.80	731.4	28.84	732.5	36.3	2.4	57	SW	29	13	.....	.....	10	.....	.....	0.413	10.5	Rain & snow	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.27	743.4	30.29	769.3	49.3	9.6	79	ENE	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.06	763.4	30.14	765.6	64.9	18.3	79	SW	9.8	4.4	.....	.....	5	.....	.....	0.016	0.4	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.89	759.1	30.25	768.4	53.4	11.9	70	NNE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.94	760.5	30.01	762.3	59.7	15.4	85	Calm	0	0	.....	.....	3	.....	.....	0.142	3.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd'r.
D. Fernando	.....	.....	.....	A. ... le Saude, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa,				
Bulama, Bissago Islands, Africa	.....	.....	D. clouds.....	A. de Souza Roza, 2nd Lt.
Sá da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd'r.
Sado. Capt. J. A de Brito Capello.				
Lobito, Benguela	.....	.....	D. clouds....	A. Terceira, 2nd Lieut.
Tejo. Capt. J. M. T. Guimarães,				
Macao, China	0	.....	Raining, 16 hr's rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.15	740.5	29.17	741.0	35.8	2.1	84	WSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.69	779.5	30.61	777.4	16.2	— 8.8	97	WSW	9	4	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.72	754.8	30.25	768.4	2.3	—16.5	87	SSE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.89	759.2	30.14	765.6	38.3	— 3.5	67	WSW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.54	724.9	29.54	750.3	23.2	— 4.9	88	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.51	749.6	29.80	756.8	27.3	— 2.6	98	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.67	779.1	30.69	779.6	21.9	— 5.5	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.94	760.4	30.63	777.9	20.1	— 6.6	95	S	2	1	.....	.....	1ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.49	749.0	29.98	761.6	28.4	— 2.0	78	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.35	770.9	30.67	776.5	22.3	— 5.4	96	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.65	763.2	30.21	767.2	33.3	0.7	76	SW	7.8	3.5	.....	.....	2s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.98	710.6	30.66	778.8	—20.6	—29.2	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.66	778.8	30.73	780.6	11.3	—11.5	82	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.43	772.9	30.69	779.4	18.7	— 7.4	75	WSW	7	3	.....	.....	5ks	.....	.....	.....	.....	.....	Kurdakof.
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.23	767.7	30.37	771.3	20.8	— 6.2	87	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.84	758.0	29.86	758.4	38.5	3.6	83	WNW	25	11	.....	.....	10kn	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.78	730.9	30.51	774.9	15.1	— 9.4	94	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	29.17	740.8	30.68	779.2	34.5	1.4	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.08	764.0	30.53	775.4	29.3	— 1.5	68	SSE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.06	763.4	30.50	774.8	28.2	— 2.1	69	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.21	767.4	30.54	775.8	—10.1	—23.4	82	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.24	768.1	30.35	770.8	55.0	12.8	61	ENE	8.9	4.00	.....	6	.....	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.24	768.1	30.30	769.5	64.6	18.1	56	SW	3.8	1.68	2	1	NW	.....	.....	0	0	Slightly cl'dy	Prof. Manuel de Navevan.
Burgos, Met. Obs'y	27.31	693.6	.....	.....	44.2	6.8	74	NE	3.1	1.40	0	8	.....	.....	.....	0	0	Cloudy.....	Domingo Martin y Peres.
Madrid, Royal Observatory	28.04	712.1	30.31	769.8	52.5	11.4	64	E	3.0	1.33	0	8	.....	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	30.12	765.0	30.27	768.9	57.0	13.9	79	SSW	1.5	0.69	3	6	NW	.....	.....	0.002	0.05	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.32	744.7	30.21	767.4	60.3	15.7	58	SE	0	0	.....	1	.....	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.03	762.8	30.10	764.4	66.7	19.3	88	Calm	0	0	.....	0	1s;k	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.98	761.6	30.01	762.2	82.1	27.8	77	NE	.....	.....	.....	.....	1s	.....	E	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.10	764.4	30.20	767.0	61.3	16.3	65	ESE	18.8	8.4	.....	0	7	.....	E	0.013	0.3	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.2	30.06	763.5	74.8	23.8	80	E	11.2	5.00	.....	5kn	4kn	E	SW	0.089	2.25	Cloudy.....	Capt. Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.26	743.3	29.30	744.3	40.6	4.8	.....	SW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.52	749.9	29.58	751.2	43.9	6.6	62	WNW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	29.64	752.9	29.69	754.2	46.8	8.2	65	WSW	.....	.....	4	.....	8	.....	.....	0	0	.....	
Stockholm	29.90	759.4	30.08	763.9	47.1	8.4	67	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	30.11	764.9	30.17	766.4	37.4	3.0	66	WSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.87	758.6	29.95	760.8	44.8	7.1	75	SW	18.8	8.4	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 58′, W. 79° 32′	.....	.....	29.95‡	760.6‡	79.0	26.1	.....	N	.....	.....	6	.....	5	.....	.....	.....	.....	Threatening	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.00	736.7	30.52	775.2	25.5	— 3.6	100	NNW	.....	.....	2	.....	9	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.76	730.4	30.48	774.2	29.8	— 1.2	75	N	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.6 mm.; Thermometer, —5.8 Cent. Relative Humidity, +24 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.54	775.8	39.4	4.1	78	ENE	11	5.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.34	770.5	57.6	14.2	.....	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.28	769.2	57.0	13.9	54	NW	.....	.....	1	c	3k	.....	NW	6	0	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B.	29.61	752.1	29.68	753.9	9.4	—12.0	89	Calm	0	0	.....	7c	1s	Calm	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.62	752.3	29.67	753.6	17.3	— 8.2	76	NW	2	0.9	.....	.....	10s	.....	.....	0.03	0.8	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.28	743.7	29.48	748.8	23.9	— 4.5	100	SW	.....	.....	1	.....	10n	.....	.....	0.75	19.1	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.48	748.8	29.66	753.4	— 3.0	—19.4	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	3.5	—15.8	87	N	20	8.9	.....	.....	10n	.....	.....	0.03	0.8	Light snow	J. McWilliams.
Fredericton, N. B.	29.61	752.1	29.68	753.9	16.0	— 8.9	85	SE	5	2.2	.....	7cs	0	.....	.....	0.10	2.5	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	29.50	749.3	30.51	774.9	—33.4	—36.3	100	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.77	730.7	30 17	766.3	11.0	—11.7	100	NW	.....	.....	3	.....	10n	.....	.....	0.10	2.5	Snowing	James Grant.
Halifax, N. S.	29.55	750.6	29.69	754.1	23.0	— 5.0	86	N	7	3.1	.....	.....	10ks	.....	.....	0.250	6.35	Cloudy	A. Allison.
Hamilton, Ontario	29.63	752.6	30.04	763.0	15.1	— 9.4	81	W	.....	.....	1	6ck	0	W	.....	0.01	0.3	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.25	742.9	29.61	752.1	24.7	— 4.1	90	NW	16	7.2	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow	S. Woods, M. A.
Little Glace Bay, N. S.	.....	.....	.....	.....	.....	.....	.....	W	8	3.6	.....	6k	0	W	.....	0.17	4.3	Fair	C. H. Rigby.
Montreal, Quebec	29.32	744.7	29.53	750.0	22.2	— 5.4	96	S	9	4.0	.....	.....	10n	.....	.....	0.05	1.3	Light snow	C. H. McLeod, C. E
Moose Factory, Ontario	30.07	763.8	30.11	764.8	—30.2	—34.6	77	W	.....	.....	2	0	0	.....	.....	0	0	Clear	J. R. Nelson.
Norwood, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Parry Sound, Ontario	29.35	745.5	30.14	765.5	— 7.5	—21.9	59	NW	10	7.2	.....	0	0	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Peterboro, Ontario	29.11	739.4	29.93	760.2	5.8	—14.6	61	NW	.....	.....	8	0	0	.....	.....	0.21	5.3	Clear	Rev. R. Mosley.
Port Dover, Ontario	29.32	744.7	30.07	763.8	14.1	— 9.9	100	NW	13	5.8	.....	.....	10n	.....	.....	0	0	Clear	J. F. Jeffers, M. A.
Port Stanley, Ontario	29.43	747.5	30.12	765.0	15.2	— 9.3	82	W	28	12.5	.....	.....	5ks	.....	.....	0.16	4.1	Light snow	H. Morgan.
Quebec, Quebec	29.28	743.7	29.62	752.3	18.5	—10.3	100	Calm	.....	.....	0	.....	10n	.....	.....	Inap.	Inap.	Cloudy	M. Payne.
Rockliffe, Ontario	29.42	747.3	29.94	760.5	— 3.8	—19.9	83	NW	10	4.5	.....	.....	Haze	.....	.....	0.05	1.3	Light snow	Capt. Ashe, R. N.
St. John, N. B.	29.48	748.8	29.65	753.1	20	— 6.7	85	NE	5	2.2	.....	.....	9ks	.....	.....	0	0	Hazy	W. H. McIntyre.
Saugeen, Ontario	29.34	745.2	30.13	765.3	6.0	—14.4	92	NW	58	25.9	.....	.....	10s	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Stratford, Ontario	28.76	730.5	30.17	766.3	7.1	—13.8	95	NW	20	8.9	.....	2cs	4s	NW	.....	0.16	4.1	Snowing	Miss K. Stewart.
Sydney, C. B.	29.60	751.8	29.64	752.8	19.0	— 7.2	56	NW	8	3.6	.....	.....	10s	.....	.....	0.20	5.1	Fair	C. J. MacGregor, M. A
Toronto, Ontario	29.60	751.8	30.02	762.5	13.1	—10.5	54	NW	35	15.6	.....	0	2ks	.....	.....	0.15	3.8	Cloudy	T. C. Hill, C. E.
Windsor, N. S.	29.56	750.8	29.66	753.4	22.5	— 5.3	93	N	10	4.5	.....	.....	10ks	.....	.....	0	0	Clear	Magnetic Observatory
Woodstock, Ontario	28.93	734.8	30.10	764.5	11.1	—11.6	96	N	29	13.0	.....	4k	0	NW	.....	0	0	Fair	Prof. John E. Oram, M. A
Yarmouth, N. S.	29.58	751.3	29.67	753.6	26.5	— 3.1	81	NW	3	1.3	.....	4k	6ks	W	.....	0.20	5.1	Fine	Professor Wolverton.
Sub-Series.																0	0	Cloudy	Lt. F. E. Wilmot, R. N.
St. Johns, Newfoundland	29.36	745.7	29.62	752.3	21	— 6.1	85	NW	.....	.....	.....	0	5s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., Pilopital Maritime	.....	.....	29.53	750.0	20.1	— 6.6	.....	NW	.....	.....	6	.....	.....	.....	.....	0	0	.....	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.49	749.0	29.73	755.1	27	— 2.8	76	S	4	1.8			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.53	750.0	30.25	768.3	0	—17.8	70	NW	20	8.9		0	5s		NW	0.05	1.3	Fair	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.96	735.6	30.14	765.5	40	4.4	48	NW	15	6.7		5k	5s	NW	NW	0.01	0.3	Cloudy	
Atlantic City, New Jersey	29.91	759.7	29.93	760 2	33	0.6	70	SW	8	3.6		0	0			0.22	5.6	Clear	
Augusta, Georgia	29.93	760.2	30.14	765.5	53	11.7	67	W	2	0.9		8cs	0	SW		0	0	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	36	2.2	53	SW	6	2.7		2c	0	NW		0.02	0.5	Clear	
Barnegat, New Jersey	29.87	758.7	29.90	759.4	31	— 0.6	79	NW	9	4.0		0	2s		W	0.04	1.0	Clear	
Bismarck, Dakota	28.31	719.1	30.17	766.3	7	—13.9	100	SE	12	5.4			10n		Calm	0.01	0.3	Light snow	
Boerne, Texas	28.66	728.0	30.04	763.0	35	1.7	100	N	8	3.6			10s		N	0.75	19.1	Cloudy	
Boise City, Idaho	27.69	703.3	30.65	778.5	18	— 7.8	77	SE	2	0.9		0	0			0	0	Clear	
Boston, Massachusetts	29.56	750.8	29.72	754.9	26	— 3.3	63	SW	8	3.6		0	0			0.04	1.0	Clear	
Brackettville, Texas	28.98	736.1	30.08	764.0	38	3.3	100	NE	9	4.0			10n		Calm	0.86	21.8	Light rain	
Breckenridge, Minnesota	29.37	746.0	30.55	776.0	—16	—26.7	100	S	8	3.6		0	8s		Calm	0	0	Cloudy	
Brownsville, Texas	30.09	764.3	30.13	765.3	45	7.2	92	N	8	3.6			10s		Calm	0.11	2.8	Cloudy	
Buffalo, New York	29.22	742.2	29.96	761.0	18	— 7.8	84	NW	20	8.9			10n		NW	0.02	0.5	Light snow	
Burkes, Arizona																			
Burlington, Vermont	29.27	743.4	29.57	751.1	26	— 3.3	75	S	15	6.7			10s			Inap.	Inap.	Cloudy	
Cairo, Illinois	29.98	761.5	30.39	771.9	35	1.7	70	N	8	3.6		0	8s		Calm	0	0	Fair	
Campo, California																			
Cape Hatteras, N. Carolina	30.00	762.0	30.01	762.2	50	10.0	45	N	16	7.2		0	8s		Calm	0.40	10.2	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	42	5.6	58	W	14	6.3		2cs	8ks	Calm	SW	0.64	16.3	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.03	762.7	53	11.7	61	N	12	5.4			10s		Calm	0.31	7.9	Cloudy	
Cape May, New Jersey	29.94	760.5	29.97	761.2	39	3.9	47	W	31	13.9		0	2s		W	0.24	6.1	Fair	
Castroville, Texas	29.35	745.5	30.09	764.3	40	4.4	91	N	7	3.1			10s		N	1.27	32.3	Threatening	
Cedar Keys, Florida	30.10	764.5	30.12	765.0	62	16.7	100	N	2	0.9			Fog		Calm	0	0	Dense fog	
Charleston, South Carolina	30.10	764.5	30.05	763.3	58	14.4	88	NW	4	1.8		0	5s		W	0	0	Fair	
Charlotte, North Carolina	29.21	741.9	30.04	763.0	43	6.1	28	N	5	2.2		10cs	0	W		0	0	Cloudy	
Chattanooga, Tennessee	29.42	747.3	30.26	768.6	36	2.2	45	N	9	4.0		2cs	0	W		0	0	Fair	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	14	—10.0	46	NW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.65	753.1	30.41	772.4	13	—10.6	62	NW	7	3.1		0	0			0	0	Clear	
Cincinnati, Ohio	29.57	751.1	30.26	768.6	30	— 1.1	57	NW	8	3.6		1k	1s	NW	Calm	0	0	Clear	
Cleveland, Ohio	29.39	746.5	30.16	766.1	20	— 6.7	85	W	21	9.4		2k	8ks	W	W	0.01	0.3	Cloudy	
Coleman City, Texas	28.38	720.8	30.14	765.5	32	0.0	79	N	10	4.5			10s		Calm	0.36	9.1	Threatening	
Columbus, Ohio	29.29	744.0	30.17	766.3	27	— 2.8	76	NW	20	8.9		2k	0	NW		0	0	Clear	
Concho, Texas	28.26	717.8	30.02	762.5	34	1.1	79	NE			2		10s		Calm	0.05	1.3	Cloudy	
Corsicana, Texas	29.78	756.4	30.28	769.1	37	2.8	90	N	8	3.6			10n		Calm	1.59	40.4	Light rain	
Davenport, Iowa	29.78	756.4	30.49	774.4	11	—11.7	70	NW	10	4.5		0	0			0	0	Clear	
Dayton, Washington T'y					23	— 5.0	73	Calm			0	0	0			0	0	Clear	
Deadwood, Dakota	25.43	645.9			23	— 5.0	60	Calm	0	0		0	8s		W	0	0	Fair	
Decatur, Texas	29.11	739.4	30.33	770.4	43	6.1	67	E	4	1.8			10s		NE	0	0	Cloudy	
Denison, Texas	29.49	749.0	30.33	770.4	40	4.4	48	NE	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Denver, Colorado	24.89	632.2	30.11	764.8	9	—12.8	57	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.57	751.1	30.57	776.5	3	—16.1	73	NE	6	2.7		0	0			0	0	Clear	
Detroit, Michigan	29.50	749.3	30.23	767.8	13	—10.6	81	NW	12	5.4		0	2s		NW	0.01	0.3	Clear	
Dodge City, Kansas	27.68	703.1	30.19	766.8	14	—10.0	64	NW	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa	29.76	755.9	30.56	776.2	6	—14.4	76	N	5	2.2		0	0			0	0	Clear	
Duluth, Minnesota	29.75	755.6	30.56	776.2	—15	—26.1	71	SW	6	2.7		0	0			0.10	2.5	Clear	
Eagle Pass, Texas	29.41	747.0	30.17	766.3	43	6.1	100	NW	4	1.8			10n		Calm	0.41	10.4	Light rain	
Eastport, Maine	29.57	751.1	29.64	752.8	26	— 3.3	75	Calm	0	0		10c	ck	0	SW	0	0	Fair	
Edinburg, Texas					47	8.3	85	N			1		10s		Calm	Inap.	Inap.	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.33	745.0	30.09	764.3	21	— 6.1	71	NW	30	13.4			10s		NW	0	0	Cloudy	
Escanaba, Michigan	29.66	753.4	30.40	772.1	— 2	—18.9	67	W	12	5.4		0	0			0.03	0.8	Clear	
Florence, Arizona	28.70	729.0	30.30	769.6	37	2.8	81	Calm	0	0			10ks		S	0.03	0.8	Cloudy	
Fort Apache, New Mexico					23	— 5.0	60	E	4	1.8		0	0			0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.94	709.7	29.92	760.0	12	—11.1	80	Calm	0	0		5cs	0	NW		0	0	Fair	
Fort Custer, Montana	26.95	684.5			15	— 9.4	85	S	4	1.8		5c	0	NW		0	0	Fair	
Fort Davis, Texas	25.16	639.0	30.12	765.0	27	— 2.8	88	NE	8	3.6			Fog		NE	0	0	Foggy	
Fort Gibson, Indian Ter.	29.78	756.4	30.37	771.4	27	— 2.8	76	NW	2	0.9		0	1s		Calm	0	0	Clear	
Fort Grant, Arizona	25.23	640.8	30.03	762.7	25	— 3.9	75	SE	8	3.6			10s		Calm	0.02	0.5	Cloudy	
Fort Griffin, Texas	28.96	735.6	30.29	769.4	40	4.4	65	N	5	2.2			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.34	694.4			21	— 6.1	60	SW	2	0.9		2c	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.82	706.6	29.83	757.7	33	0.6	79	NE	14	6.3			10s		NE	0.02	0.5	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.06	738.1	30.25	768.3	30	— 1.1	68	N	6	2.7		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.27	718.0			8	—13.3	89	SE	6	2.7		5ck	0	SE		0	0	Fair	
Fort Verde, Arizona					19	— 7.2	54	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.24	717.3	29.86	758 4	36	2.2	90	N	10	4.5			10s		Calm	0.80	20.3	Cloudy	
Galveston, Texas	30.12	765.0	30.16	766.1	47	8.3	92	NE	16	7.2			10n		NE	Inap	Inap.	Light rain	
Graham, Texas	29.15	740.4	30.25	768.3	40	4.4	65	NE	4	1.8			10s		S	0	0	Cloudy	
Grand Haven, Michigan	29.62	752.3	30.33	770.4	12	—11.1	80	NE	16	7.2			10n		Calm	0.04	1.0	Light snow	
Helena, Montana																			
Henrietta, Texas	29.32	744.7	30.31	769.9	40	4.4	65	E	8	3.6			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.46	748.3	30.30	769.6	20	— 6.7	56	NW	16	7.2		0	0			0	0	Clear	
Indianola, Texas	30.12	765.0	30.15	765.8	45	7.2	100	W	19	8.5			10n		Calm	0.04	1.0	Light rain	
Jacksboro, Texas	29.05	737.9	30.22	767.6	40	4.4	82	NE	16	7.2			10s		NE	0	0	Cloudy	
Jacksonville, Florida	30.08	764.0	30.10	764.5	62	16.7	88	NW	4	1.8		2cs	0	Calm		0	0	Clear	
Keokuk, Iowa	29.74	755.4	30.43	772.9	14	—10.0	73	N	13	5.8		0	0			0	0	Clear	
Key West, Florida	30.07	763.8	30.10	764.5	71	21.7	85	NE	6	2.7		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.01	762.2	30.03	762.7	44	6.7	68	N	13	5.8		5cs	0	W		0.45	11.4	Fair	
Knoxville, Tennessee	29.28	742.4	30.29	769.4	32.5	0.3	75	NE	2	0.9		1k	2s	W	Calm	0.09	2.3	Fair	
La Crosse, Wisconsin	29.71	754.6	30.55	776.0	2	—16.7	72	N	12	5.4		0	0			0	0	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	42	5.6	34	NE	8	3.6			10n		Calm	Inap.	Inap.	Light snow	
Laredo, Texas	29.84	757 9	30.19	766.8	49	9.4	93	N	3	1.3			10ks		N	0.32	8.1	Cloudy	
Leavenworth, Kansas	29.52	749.8	30.43	772.9	25	— 3.9	75	N	10	4.5		0	0			0	0	Clear	
Lewiston, Idaho					22	— 5.6	85	Calm	0	0		5c	0	Calm		0	0	Fair	
Little Rock, Arkansas	30.02	762.5	30.40	772.1	41	5.0	57	N	4	1.8		10cs	0	W		0	0	Cloudy	
Los Angeles, California	30.00	762.0	30.36	771.1	34.5	1.4	70	NE	6	2.7		0	0			0	0	Clear	
Louisville, Kentucky	29.66	753.4	30.25	768.3	33	0.6	61	W	8	3.6		0	0			0	0	Clear	
Lynchburg, Virginia	29.32	744.7	30.02	762.5	37	2.8	45	W	6	2.7		5cs	0	W		0	0	Fair	
Madison, Wisconsin	29.36	745.7	30.48	774.2	1	—17.2	71	NW	16	7.2		0	0			0.03	0.8	Clear	
Marquette, Michigan	29.56	750.8	30.25	768.3	3	—16.1	73	NW	16	7.2			10s		NW	0.04	1.0	Cloudy	
Mason, Texas	28.49	723.6	30.34	770.6	36	2.2	71	NE	9	4.0			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.99	761.7	30.35	770.9	37	2.8	62	NW	7	3.1			10s		Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.62	752.3	30.45	773.4	2	—16.7	72	NW	16	7.2		0	1s		Calm	Inap.	Inap.	Clear.	
Mobile, Alabama	30.15	765.8	30.19	766.8	49.5	9.7	89	N	12	5.4			10s		N	0.39	9.9	Cloudy.	
Montgomery, Alabama	30.01	762.2	30.25	768.3	47	8.3	48	N	10	4.5		10k	0	NW		0.01	0.3	Cloudy.	
Morgantown, West Virginia	29.04	737.6	30.06	763.5	37	2.8	53	SW	20	8.9			10ks		NW	0	0	Cloudy.	
Mt. Washington, N. H.	23.09	586.5	29.45	748.0	15	—9.4	100	W	30	13.4			Fog		W	0.01	0.3	Foggy	
Nashville, Tennessee	29.77	756.1	30.34	770.6	34	1.1	79	W	1	0.4		0	5ks		SW	Inap.	Inap.	Fair.	
New Haven, Connecticut	29.70	754.4	29.82	757.4	33	0.6	79	SW	12	5.4			10s		Calm	Inap.	Inap.	Cloudy.	
New London, Connecticut	29.75	755.6	29.80	756.9	30	—1.1	68	W	8	3.6		0	0			0	0	Clear.	
New Orleans, Louisiana	30.09	764.3	30.15	765.8	56	13.3	80	NE	10	4.5			10s		Calm	0	0	Cloudy.	
Newport, Rhode Island	29.74	755.4	29.79	756.7	30	—1.1	68	W	14	6.3		0	0			0.03	0.8	Clear.	
New River, North Carolina					52	11.1	53	NW			1		10s		SW			Cloudy.	
New York, New York	29.67	753.6	29.85	758.2	32	0.0	60	SW	15	6.7		2ck	5ks	SW	SW	0.01	0.3	Fair.	
Norfolk, Virginia	29.97	761.2	30.03	762.7	43	6.1	51	SW	7	3.1		0	5s		Calm	0.21	5.3	Fair.	
North Platte, Nebraska	27.30	693.4	30.13	765.3	10	—12.2	69	NW	8	3.6		0	0			0	0	Clear.	
Olympia, Washington Ter.	30.55	776.0	30.59	777.0	32.0	0.0	89	S	8	3.6		2cs	0	Calm		0	0	Fair	
Omaha, Nebraska	29.22	742.2	30.45	773.4	9	—12.8	78	NE	6	2.7		0	5s		Calm	0	0	Fair.	
Oswego, New York	29.41	747.0	29.74	755.4	27	—2.8	76	NW	32	14.3		5k	0	NW		0.05	1.3	Fair.	
Pembina, Dakota	29.46	748.3	30.47	773.9	—34	—36.7	100	S	6	2.7		0	0			0	0	Clear	
Pensacola, Florida	30.15	765.8	30.18	766.6	55	12.8	81	N	8	3.6			10s		N	0	0	Cloudy.	
Philadelphia, Pennsylvania	29.85	758.2	29.99	759.4	34	1.1	61	W	5	2.2		8k	0	NW		0.05	1.3	Cloudy.	
Phœnix, Arizona	29.13	739.9	31.06	788.9	36	1.7	70	NW	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.72	450.1	29.93	760.2	—1	—18.3	37	N	12	5.4		2cs	0	Calm		0	0	Clear.	
Pilot Point, Texas	29.52	749.8	30.38	771.6	40	4.4	73	N	4	1.8			10s		N	Inap.	Inap.	Cloudy.	
Pioche, Nevada	24.23	615.4	30.00	762.0	18	—7.8	84	NW	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29 24	742.7	30.09	764.3	27	—2.6	88	NW	16	7.2			10n		NW	0.01	0.3	Light snow.	
Port Huron, Michigan	29.44	747.8	30.18	766.6	9	—12.8	78	W	13	5.8			10n		Calm	0.04	1.0	Light snow.	
Portland, Maine	29.65	753.1	29.70	754.4	29	—1.7	67	W	4	1.8		0	0			0	0	Clear	
Portland, Oregon	30.60	777.2	30.68	779.3	31	—0.6	95	SE	5	2.2			Fog			0	0	Foggy	
Portsmouth, North Carolina					52	11.1	29	NW	22	9.8		10cs	0	Calm		0.16	4.1	Cloudy.	
Prescott, Arizona	24.87	631.7	30.23	767.8	—2	—18.9	69	SW			1	0	0			0	0	Clear	
Punta Rassa, Florida	30.08	764.0	30.09	764.3	64	17.8	94	NW	6	2.7			Fog		NW	0	0	Foggy	
Red Bluff, California	30.06	763.5	30.44	773.2	41	5.0	49	N	6	2.7		0	0			0	0	Clear.	
Rio Grande City, Texas	29.97	761.2	30.20	767.1	46	7.8	92	N	6	2.7			10s		Calm	0.07	1.8	Cloudy.	
Rochester, New York	29.16	741.4	29.83	757.7	22	—5.6	86	W	28	12.5			10n		W	0.21	5.3	Light snow.	
Roseburg, Oregon	30.05	763.3	30.66	778.7	32	0.0	90	NE	2	0.9			10s		Calm	0	0	Cloudy	
Sacramento, California	30.32	770.1	30.40	772.1	35	1.7	90	E	3	1.3		0	0			0	0	Clear	
St. Louis, Missouri	29.80	756.9	30.41	772.4	27	—2.8	76	N	14	6.3		0	0			0	0	Clear	
St. Paul, Minnesota	29.60	751.8	30.57	776.5	—11	—23.9	79	W	2	0.9		0	0			0	0	Clear	
Salt Lake City, Utah	26.03	661.2	30.30	771.1	6	—14.4	52	SE	4	1.8		0	0			0	0	Clear.	
San Antonio, Texas	29.50	749.3	30.11	764.8	40	4.4	100	W	2	0.9			10n		Calm	1.78	45.2	Light rain.	
San Diego, California	30.29	769.4	30.37	771.4	38	3.3	63	NE	4	1.8		0	0			0	0	Clear.	
Sandusky, Ohio	29.49	749.0	30.21	767.3	21	—6.1	86	NW	40	17.9			10s		NW	Inap.	Inap.	Cloudy.	
Sandy Hook, New Jersey	29.84	757.9	29.87	758.7	33	0.6	61	SW	18	8.0		5ck	0	NW		0.03	0.8	Fair	
San Francisco, California	30.33	770.4	30.40	772.1	43	6.1	83	NE	1	0.4		0	0			0	0	Clear.	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	21	—6.1	29	NE	2	0.9		0	0			0	0	Clear.	
Savannah, Georgia	30.01	762.2	30.10	764.5	59	15.0	76	W	5	2.2			10s		W	0	0	Cloudy.	
Shreveport, Louisiana	30.07	763.8	30.30	769.6	39	3.9	91	NE	4	1.8			10n		Calm	1.00	25.4	Light rain.	
Silver City, New Mexico																			
Smithville, North Carolina	30.01	762.2	30.04	763.0	57	13.9	100	W	3	1.3		8k	Fog	W		0	0	Cloudy.	
Socorro, New Mexico	25.50	647.7	29.56	750.8	28	—2.2	66	N	8	3.6			10s		Calm	0	0	Cloudy.	
Springfield, Illinois	29.70	754.4	30.43	772.9	20	—6.7	56	NW	17	7.6		0	0			0	0	Clear	
Springfield, Massachusetts	29.64	752.8	29.77	756.1	26	—3.3	75	S	4	1.8		0	8ks		W	Inap.	Inap.	Cloudy.	
Stockton, Texas	27.11	688.6	30.11	764.8	30	—1.1	6	NE				0	0			0	0	Clear.	
Thatcher's Island, Mass.	29.67	753.6	29.72	754.9	28	—2.2	88	W	12	5.4		0	Haze			0.02	0.5	Clear.	
Toledo, Ohio	29.51	749.5	30.25	768.3	19	—7.2	69	N	16	7.2		2k	0	N		Inap.	Inap.	Clear.	
Tucson, Arizona	27.69	703.3	30.24	768.1	32	0.0	79	N	5	2.2			10s		Calm	0.02	0.5	Cloudy.	
Umatilla, Oregon	30.19	766.8	30.73	780.5	21.5	—5.8	79	SE	3	1.3		0	0			0	0	Clear	
Uvalde, Texas	29.24	742.7	30.08	764 0	42	5.6	83	NE	3	1.3			10s		NE	1.53	38.9	Cloudy.	
Vicksburg, Mississippi	30.03	762.7	30.30	769.6	42	5.6	88	NE	8	3.6			10n			1.27	32.3	Light rain.	
Virginia City, Montana	24.42	620.3	29.90	759.4	14	—10.0	64	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.90	761.7	30.39	771.9	32	0.0	89	E	2	0.9		0	0			0	0	Clear.	
Washington, D. C.	29.88	758.9	30.00	762.0	35	1.7	68	NW	5	2.2		0	0			0.04	1.0	Clear.	
Wickenburg, Arizona					28	—2.2	100	W			1	0	0			0	0	Clear	
Wilmington, North Carolina	29.96	761.0	30.04	763.0	54	12.2	61	N	7	3.1			10ks		N	0.22	5.6	Cloudy.	
Winnemucca, Nevada	26.06	661.9	30.42	772.7	8	—13.3	78	SW	8	1.3		0	0			0	0	Clear.	
Wood's Holl, Massachusetts	29.74	755.4	29.78	756.4	32	0.0	79	NW	12	5.4		0	5s		Calm	0	0	Fair	
Yankton, Dakota	29.11	739.4	30.57	776.5	5	—15.0	75	SE	6	2.7			10s		Calm	0	0	Cloudy.	
Yuma, Arizona	30.15	765.8	30.30	769.6	34	1.1	61	N	3	1.3		0	0			0	0	Clear.	
Sub-Series.																			
Bogota, U. S. Colombia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	30.02	762.5	30.07	763.8	71	21.7	75	Calm	0	0		0	0			0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	74	23.3	77												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	82	E			2	5k	8ks	E		0	0	⅛ Cloudy.	O. J. Hering.
PuertoBerrio, U.S. Colombia	29.41	747.0	29.96	761.0	83	28.3	68	N			2	2c				0.06	1.5		Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.05	763.3	30.08	764.0	73	22.8	81	Calm	0	0		0	0						Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.02	762.5	30.08	764.0	—27.0	—32.8		NW	16	7.2		4k	2s	NW	NW	0	0	Cloudy.	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,131.8 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,351 (?) ft., or 2,068 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1.856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm., Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.34 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.16‡	766.1‡			61	16.1	88	NE	6	2.7			10		NE	1.45	36.8			Threatening	
Navy Yard, Portsmouth, N.H.	30.15‡	765.8‡			22	— 5.6	86	NW	3	1.3			0							Clear	
Naval Hospital, Yokohama, Japan	30.24‡	768.1‡			40	4.4	78	NE			1		7ks		SW	Slight	Slight			Cloudy	
Adams, Navy Yard, Mare I'd., Cal.	30.53‡	775.4‡			43	6.1	75	Calm			0		0							Clear.	
Alaska, S. 20° 47′ W. 70° 19′...*	29.89‡	759.2‡			67	19.4	89	SE			3		2		NW			Smooth		Hazy	
Colorado, New York, N. Y.	29.80‡	756.9‡			32	0.0	100	SW	10	4.5			5?		NW	0	0			Clear?	
Constitution, N. 10° 12′, W. 79° 10′...	29.96‡	761.0‡			78	25.6	82	NE			5		3		NE			Mod'ate	NE	Clear	
Enterprise. N. 37° 25′, E. 24° 25′	30.38‡	771.6‡			54	12.2	80	N			5		4		N			Mod'ate		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.06‡	764.0‡			42	5.6	58	W	6	2.7			8		W	0.33	8.4			Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.38‡	771.6‡			36	2.2	100	Calm	0	0			0			0	0			Clear	
Kearsarge, Key West, Fla.	30.11‡	764.8‡			73	22.8	90	ENE			2		0					Smooth		Clear.	
Lackawana, N. 37° 00′, W. 126° 10′...†	30.42‡	772.7‡			52	11.1	100	NNW			3		10		NW			Smooth	NW	Cloudy	
Marion, S. 23° 20′, W. 42° 15′...	29.91‡	759.7‡			77	25.0	56	NE			3		8		NE	Light	Light	Smooth		Cloudy	
Michigan, Erie, Pa.	30.05‡	763.3‡			23	— 5.0	60	NW			5		8		NW					Cloudy	
Monocacy, Shanghai, China	30.22‡	767.6‡			44	6.7	84	NE			0–1		10		Calm					Misty	
New Hampshire, Port Royal, S. C.	30.09‡	764.3‡			59	15.0	88	NW	8	3.6			8		Calm	0	0			Cloudy	
Nipsic. N. 10° 42′, W. 64° 23′	30.05‡	763.3‡			74	23.3	81	ENE			1		5					Smooth		D. clouds	
Onward, Callao, Peru †.	29.91‡	759.7‡			68	20.0	90	SE			1		5					Long	W	Hazy.	
Palos, Tientsin, China	30.34‡	770.6‡			29	— 1.7	100	NNW			1		5?							Cloudy?	
Passaic, Washington, D. C.	30.01‡	762.2‡			35	1 7	90	NW			4		5		NW					Fair	
Pensacola, Callao, Peru	29.87‡	758.7‡			65	18.3	94	S			1		2					Smooth		Foggy	
Powhatan, N. 38° 04′, W. 74° 49′	30.00‡	762.0‡			43	6.1	51	WNW			4		8		W	0	0	Long	WNW	Fair	
Quinnebaug, Leghorn, Italy	30.37‡	771.4‡			58	14.4	58	E			2		5		SE					Fair	
Ranger, N. 39° 20′, W. 138° 45′	30.54‡	775.7‡			53	11.7	86	ESE			3		5?		ESE			Smooth		Clear?	
Richmond, Hong-Kong, China	30.15‡	765.8‡			62	16.7	100	ENE			1–2		10			0.28	7.1	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	30.36‡	771.1‡			45	7.2	100	NNW	6	2.7			10		NNW	0.31	7.9			Cloudy	
Santee. Annapolis, Md.	30.00‡	762.0‡			36	2.2	80	NW			3		2		NW	0	0			Clear	
Shenandoah, Montevideo, Uruguay	29.82‡	757.4‡			73	22.8	85	E			1		5		E			Smooth		Fair	
St. Louis, League Island, Pa.	29.91‡	759.7‡			34	1.1	70	SW	15	6.7			8		NW	0.1	3.			Fair	
Swatara, N. 37° 44′, W. 40° 40′	30.18‡	766.6‡			54	12.2	93	NNE			1		10		Calm			Long	NE	Cloudy	
Tennessee, Norfolk, Va.	30.04‡	763.0‡			42	5.6	74	WNW	8	3.6			7		Calm	0.51	13.0			D. clouds	
Trenton, Port Mahon, Minorca, Med	30.29‡	769.4‡			65	18.3	68	E			3		8			3 h'rs	3 h'rs			Fair	
Tuscarora, La Libertad, San Salvador	29.97‡	761.2‡			77	25.0	73	Calm			0		0			0	0	Long	S;E	Clear	
Wabash, Boston, Mass.	29.75‡	755.6‡			28	— 2.2	77	WSW	7	3.1			2			0	0			Fair	
Wachusett, Montevideo, Uruguay	30.39‡	771.9‡			72	22.2	80	ESE			3		2		ESE			Smooth	ESE	Fair	
Wyoming, Naples, Italy	30.32‡	770.1‡			55	12.8	56	ENE			2		10		E			Smooth	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks....																			W. E. Jago.
S. S. Circassian,....																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian, N. 54° 19′, W. 19° 52′....*	29.76‡	755.9‡	48	8.9	78	WSW			6		6		NW	4 hr's	4 hr's			W	Cloudy.....
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 44° 47′, W. 57° 12′.....	29.57‡	751.1‡	31	— 0.6		NW			3		10		W			Cross	S;SW	Cloudy.....	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent																			
Philadelphia, Pa.....			31	— 0.6	79	W			8		9		NW	Blank	Blank			Cloudy.....	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.....																			
S. S. Braunschweig, C. Undutsch....																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, ...																			S. Risius.
S. S. Ohio, G. Meyer,.																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 09′, E. 167° 50′....†.	30.04‡	763.0‡	58	14.4	88	WNW			6		5		WNW			Heavy	WNW	Fair.....	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 25′, E. 176° 49′ ...†.	29.56‡	750.8‡	35	1.7	....	W			4		8		NW			Mod'ate	WNW	Snowing.....	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			
S. S. Oregon.....																			J. M. Lachlan.

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander... San Francisco, Cal....†	30.42‡	772.7‡	46	7.8	.....	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
S. S. Idaho, E. Alexander...																			
S. S. Orizaba.....																			
S. S. State of California, G. Debney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 29° 49′, W. 117° 23′....†	30.401	772.1‡	58	14.4	82	NNE	.....	.....	3	.....	1	.....	NE	0	0	Small	NNE	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann. N. 43° 25′, W. 124° 49′.....	30.52‡	775 2‡	49	9.4	.....	N	.....	.....	4	.....	0	.....	.....	.....	.....	Mod'ate	NW	Clear.....	E. Polemann.
S. S. City of Panama, M. Connolly...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury Hong Kong, China. ...†	30 06‡	763.5‡	64	17.8	83	ENE	.....	.....	2	.....	8k	.....	NE	0	0	Smooth	.....	Blue sky.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths N. 42° 23′, W. 124° 15′...†	30.53‡	775.4‡	48	8.9	.....	NE	.....	.....	3	.....	2	.....	Calm	0	0	Heavy	NW	Clear.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Zalandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 45° 01′, W. 40° 20′ ....†	29 6‡	753.1‡	55	12.8	.....	SW	8	3.6	.....	.....	10	.....	SW	Blank	Blank	High	W	Stormy.....	J. Farmer & W. Apetan.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE, SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Faller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 01′, E. 50° 00′.....*	29.92‡	760.0‡	68.5	20.3	.....	Calm	.....	.....	0	.....	10	.....	W	.....	.....	Long	W;N	Foggy.....	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.†.	30.15‡	765 8‡	73	22.8	.....	ENE	.....	.....	5	.....	2	.....	NE	Blank	Blank	Rough	.....	Clear.....	.....
Iroa Cross, W. Randall, N. 5½° 40′, W. 10°00′..	30 11‡	764.8‡	50.5	10.3	96	SSE	.....	.....	6	.....	2	.....	.....	Light	Light	Long	W	Misty.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds or types, viz: cirrus, cumulus, stratus,* nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 2, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instru'm'tal error and temperature. Inches.	Barometer, corrected for instru'm'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.9	.....	.....	.....	NE	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.28	769.2	59.5	15.3	89	NW	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.26	768.7	54.7	12.6	72	NW	.....	.....	2	.....	10	.....	.....	0.130	3.3	Covered.	Tourillere.
La Calle	.....	.....	30.24	768.0	56.3	13.5	77	W	.....	.....	3	.....	7	.....	.....	0.055	1.4	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Stax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.26	768.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.27	768.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Geriville	.....	.....	30.26	768.5	46.2	7.9	75	N	.....	.....	1	.....	10	.....	.....	0	0	Covered.	Brugnlaux.
Laghouat	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bertrand.
Biskra	.....	.....	30.23	767.7	55.0	12 8	52	SSW	.....	.....	1	.....	4	.....	.....	Inap.	Inap.	Cloudy	Chanvaux.
.....	.....	.....	30.21	767.4	58.3	14.6	86	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer, corrected for instru'm'tal error and temperature. Inches.	Barometer, corrected for instru'm'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.95	760.8	30.57	776.4	11.0	—11.1	100	.....	.....	.....	.....	7	.....	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.69	754.1	30.50	774.8	32.0	0.0	78	SSW	0.2	0.1	.....	0	.....	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.57	751.0	30.53	775.4	21.2	— 6.0	79	.....	.....	.....	.....	0	.....	.....	.....	Inap.	Inap.	.....	Andreas Rospini.
Hermannstadt	29.18	741.2	30.51	775.0	30.6	— 0.8	65	S	.....	.....	1	0	.....	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	29.02	737.0	30.37	770.5	24.1	— 4.4	81	NNW	.....	.....	0	0	.....	.....	.....	0	0	.....	The Staff.
Lemberg	29.04	737.5	30.49	774.4	23.4	— 4.8	93	Calm	.....	.....	0	0	.....	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.40	746.7	30.44	773 1	35.4	1.9	65	W	.....	.....	1	0	.....	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	30.28	769.2	30.40	772.2	47.1	8.4	52	WNW	.....	.....	1	7	.....	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.07	763.6	30.57	776.4	27.3	— 2.6	87	S	.....	.....	3	0	.....	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.23	767.9	30.54	775.6	28.2	— 2.1	90	Calm	.....	.....	0	4	.....	.....	.....	0	0	.....	P. Busin.
Vienna	30.32	770.2	30.43	772.8	46.8	8.2	62	Calm	.....	.....	0	9	.....	.....	.....	0	0	Light fog	I.R.Central Met. Ob'sy.
.....	29.74	755.5	30.49	774.5	31.8	— 0.1	72	E	.....	.....	1	0	.....	.....	.....	0	0	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer, corrected for instru'm'tal error and temperature. Inches.	Barometer, corrected for instru'm'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.19	766.7	30.39	772.0	42.6	5.9	78	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Royal Observatory.
Furnes	30.38	771.6	30.40	772.2	46.9	8.3	70	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.29	769.4	30.42	772.6	40.5	4.7	78	SSW	.....	.....	2	.....	0?	.....	.....	.....	.....	Light rain	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.88	758.9	29.98	761.5	49.2	9.6	.....	SW	21	9.4	.....	.....	5	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.06	763.5	30.08	764.0	45	7.2	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Drizzling	G.Carrick.
Armagh, (Observatory)	29.90	759.4	30.13	765.3	48.9	9.4	.....	SW	9	4.0	.....	.....	10	.....	.....	.....	.....	Drizzling	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.20	767.1	45.0	7.2	.....	SSE	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.67	753.6	30.20	767.1	39.4	4.1	.....	S	2	0.9	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.90	756.7	30.19	766.8	46.9	8.3	80	NW	.....	.....	3	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	78.5	25.8	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.22	767.6	30.32	770.1	45.1	7.3	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.29	769.4	42.4	5.8	.....	W	.....	.....	0–1	.....	4	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham (School M. E.)	30.22	767.6	30.35	770.9	41.1	5.1	.....	SW	.....	.....	0	.....	4	.....	.....	.....	.....	Misty	F. Magauran, Q. M. S'gt., R. E.
Donaghadee	30.09	764.3	30.14	765.5	49	9.4	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.33	770.4	30.36	771.1	40	4.4	.....	WSW	.....	.....	2	.....	2	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	30.06	763.5	30.30	769.6	50.0	10.0	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, Natal	27.62	701.5	29.74	755.4	78.7	25.9	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.57	751.1	29.79	756.7	88	31.1	.....	N	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	
Galway (Queen's College)	.....	.....	30.13	765.3	49.5	9.7	.....	WSW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	M. O'Donaghue.
Gibraltar, Mediterranean.§	30.14	765.5	30.19	766.8	58.5	14.7	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Corp'l S. Cordne, A.H.C.
Glasgow, (Observatory)	29.86	758.4	30.06	763.5	47.9	8.8	.....	SW	.....	.....	4	.....	10	.....	.....	Blank	Blank	Gloomy	D. G. Maclean.
Great Yarmouth	30.31	769.9	30.32	770.1	42	5.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.17	766.3	30.35	770.9	45.5	7.5	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky	The Staff, for G.B.Airy.
Guernsey	30.12	765.0	30.35	770.9	43.5	6.4	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Dr. S.E Hoskins, F.R.S.
Helston	30.39	771.9	30.52	775.2	51	10.6	.....	SSW	.....	.....	1	.....	10	.....	.....	0.08	2.0	Overcast	M. P. Moyle.
Holyhead	30.12	765.0	30.19	766.8	46	7.8	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Drizzling	John Tilston.
Jersey	30.11	764.8	30.42	772.7	41.0	5.0	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew (Observatory)	30.31	769.9	30.35	770.9	39.2	4.0	.....	S	.....	.....	.....	.....	5	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.98	761.5	30.26	768.6	37.9	3.3	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.06	763.5	30.14	765.5	59.4	15.2	.....	E	.....	.....	2	4ck	.....	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.84	757.9	29.94	760.5	49	9.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.04	763.0	72.2	22.3	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.09	764.3	30.29	769.4	41.7	5.4	.....	SSW	.....	.....	2	.....	10k	.....	SSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.74	755.4	30.28	769.1	39.6	4.2	.....	SSW	.....	.....	2–3	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.09	764.3	30.35	770.9	40	4.4	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.24	768.1	30.31	769.9	47.5	8.6	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	John Merrifield.
*Roche's Point	30.10	764.5	30.20	767.1	49	9.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	30.04	763.0	30.21	767.3	46	7.8	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.90	759.4	45.8	7.7	.....	W	24	10.7	.....	.....	1	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.40	772.1	30.47	773.9	43.8	6.6	.....	ENE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Serg't W. H. Lyne.
Sheffield	29.95	760.7	30.24	768.1	47.4	8.6	.....	WSW	.....	.....	2	.....	7	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.09	764.3	30.12	765.0	45.4	7.4	97	SW	.....	.....	6	.....	10	.....	.....	0.073	1.86	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	30.20	767.1	41.8	5.4	.....	SSW	7	3.1	.....	.....	10s	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straffield, Turgiss	30.13	765.3	30.36	771.1	40.2	4.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.22	767.6	30.30	769.6	52	11.1	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia (Observatory)	30.17	766.3	30.19	766.8	48.6	9.2	.....	NNW	13	5.8	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.81	757.2	29.85	758.2	82.5	28.1	57	NW	7.8	3.5	.....	0	1k	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	26.50	647.7	.....	.....	93	33.9	.....	NW	.....	.....	.....	2c	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	73	22.8	.....	SW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.06	763.5	79.9	26.6	74	NE	.....	.....	2	.....	5k	.....	.....	.....	.....	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	30.08	764.0	50.4	10.2	.....	SW	.....	.....	3	.....	10k	.....	.....	0	0	Cloudy"	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.00	762.1	78.4	25.8	63	SE	15.5	6.9	.....	1	2	.....	E	0.59	15.0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	30.02	762.5	30.11	764.8	71.0	21.7	76	SW	5	2.2	.....	.....	0	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.95	760.7	49	9.4	.....	SW	.....	.....	4	.....	10	.....	.....	0.6	15.	.....	
North Unst, Shetland Is	.....	.....	29.73	755.1	.....	.....	.....	W	.....	.....	6	10	10	W	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points of the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0 9	Sea or swell. Direction from-																	
City of Agra, S. 54° 10′, W. 57° 26′	.....	.....	29.41‡	747.0‡	48	8.9	.....	WNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 35° 10′, W. 29° 35′	.....	.....	30.13‡	765.3‡	72.8	22.7	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Capt. W. M. Grieve.
Barque Commewyne, N. 51° 45′, W. 6° 40′	.....	.....	30.19‡	766.8‡	48.7	9.3	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	Capt. Jas. Buchan.
Bqte Fylde, N. 3° 50′, W. 42° 15′	.....	.....	30.13	765.3	60	15.6	.....	NNW	.....	.....	5	.....	7	.....	.....	4	ENE	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.69‡	754.1‡	72	22.2	.....	ESE	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 45′, W. 76° 45′	.....	.....	30.05	763.3	78	25.6	.....	ESE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 9° 34′, E. 84° 43′	.....	.....	29.92‡	760.0‡	81.5	27.5	.....	ESE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. O. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P. Maclear, R.N.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.15	664.2	29.87	758.7	57.2	14.0	89	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.23	767.7	30.27	768.9	36.1	2.3	84	SW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Faude	30.25	768.4	30.27	768.9	36.7	2.6	89	WSW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	28.90	734.0	28.94	735.1	—6.4	—14.2	87	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.85	732.9	28.90	734.0	34.0	1.1	94	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Snowing	.....
Thorshavn (Faröe)	29.50	749.4	29.54	750.3	45.7	7.6	85	SSW	.....	.....	8	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	30.06	763.4	30.17	766.2	38.7	3.7	90	S	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.89	759.2	30.44	773.2	47.3	8.5	55	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.31	769.8	30.42	772.6	46.0	7.8	86	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Englin'r School	30.14	765.6	30.53	775.5	44.2	6.8	74	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Klein, Commandant.
Avignon, Normal School	30.30	769.7	30.38	771.7	63.2	11.8	45	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.88	759.0	30.47	773.9	40.1	4.5	69	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.15	765.9	30.43	773.0	35.1	1.7	71	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.54	750.2	30.48	774.1	35.2	1.8	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.18	766.5	30.37	771.5	55.8	13.2	50	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.56	750.8	30.47	774.0	36.0	2.2	72	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mariot, Director.
Bourges, Normal School	29.88	759.0	30.46	773.6	43.9	6.6	82	N	.....	.....	1	.....	1	.....	N	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	30.13	765.3	30.37	771.4	50.4	10.2	82	S	.....	.....	1	.....	10	.....	S	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.28	769.0	30.39	772.0	49.5	9.7	77	SSE	.....	.....	.....	.....	1	.....	SE	0	0	Clear	M. Bietrin, Director.
Carcassonne, N. School	29.91	759.6	30.32	770.2	57.2	14	47	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.15	765.9	30.49	774.4	42.4	5.8	58	S	.....	.....	1	.....	0	.....	.....	0	0	Misty	Jadot, Director
Chartres, Normal School	29.83	757.7	30.41	772.3	51.1	10.6	90	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	29.02	737.0	30.40	772.1	51.1	10.6	52	NNW	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.58	751.2	30.49	774.4	31.8	— 0.1	92	E	.....	.....	1	.....	0	.....	.....	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.26	743.2	30.40	772.2	55.9	13.3	36	NE	.....	.....	1	.....	5	.....	SE	0	0	.....	Meyrol,for L. Kina, Dir.
Grenoble, Normal School	29.67	753.6	30.47	773.9	36.3	2.4	.....	ENE	.....	.....	1	2c	.....	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.23	767.7	30.45	773.3	52.7	11.5	85	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.13	765.4	30.44	773.1	42.1	5.6	79	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.51	749.5	30.38	771.7	33.4	0.8	76	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.32	770.2	30.43	773.0	45.7	7.6	91	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.80	757.0	30.47	773.8	28.2	— 2.1	100	SSE	.....	.....	1	.....	0	.....	.....	0	0	Heavy mist	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.09	763.5	30.33	770.4	60.3	15.7	64	WSW	.....	.....	1	.....	3	.....	SW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	29.34	745.3	30.46	773.6	33.3	0.7	82	SSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	25.03	635.8	30.35	770.8	36.9	2.7	63	E	.....	.....	3	.....	7	.....	NE	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.38	770.4	30.37	771.3	56.8	13.8	40	E	.....	.....	3	.....	5	E	E	0	0	Cloudy	Capt. Boissière, Director.
Nismes, Normal School	30.15	765.8	30.36	771.1	56.7	13.7	74	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Perpignan	30.20	768.6	30.37	771.3	50.4	10.2	73	SE	3.8	1.7	.....	.....	7	NE	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.68	576.1	.....	.....	21.7	— 2.7	.....	.....	.....	.....	.....	.....	1	.....	NE	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	29.29	743.9	30.38	771.7	47.6	8.8	98	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.41	645.3	.....	.....	34.0	1.6	72	ENE	.....	.....	4	.....	2	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.41	772.3	30.44	773.1	52.0	11.6	74	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.33	770.3	30.41	772.5	38.7	3.7	80	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.35	771.0	30.38	771.7	41.2	5.1	89	SSE	.....	.....	2	.....	10	SSE	SSE	0	0	Foggy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.26	768.7	30.43	772.9	47.1	8.4	67	S	.....	.....	1	.....	1	.....	.....	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	29.39	746.6	30.48	774.3	55.4	13	66	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.70	754.4	30.43	773.0	48.2	9.0	73	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	B. Baillaud, Dir.
Tours	30.22	767.6	30.42	772.6	47.1	8.4	72	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. de Tastes.
Versailles, Observatory	29.92	760.0	30.41	772.5	50.4	10.2	62	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.65	753.1	30.39	772.0	41.0	5	91	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.2	30.04	762.0	72.3	22.4	..	.....	.....	.....	.....	.....	.....	.....	.....	0.43	11.	.....	L'Abbé Marchésl
Paris, Montsouris Obs'y	30.15	765.8	.....	.....	47.3	8.5	68	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.32	770.0	30.34	770.6	38.3	3.5	85	NNE	4.3	1.9	.....	.....	10n	.....	.....	Inap.	Inap.	Raining	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., of 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.. Puy de Dome, (Summit) 1,467 m., or 4,813 ft; Turbes 308.41 m., or 1,092.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.59	751.6	30.43	772.8	19.4	— 7.0	79	NE			4		2s			0	0		Prof. Dr. Hoh.
Berlin	30.22	767.6	30.41	772.3	33.1	0.6	80	Calm			0		0			0	0		Prof. Dr. Arndt.
Breslau	29.90	759.5	30.44	773.2	36.5	2.5	70	Calm			0		0			0	0		Royal University Obs'y
Carlsruhe	30.01	762.2	30.47	773.9	30.6	— 0.8	69	SE			0		10			0	0		Albert Senz.
Cassel	29.79	756.6	30.40	772.2	25.7	— 3.5	89	SE			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.17	766.4	30.56	776.3	25.2	— 3.8	62	ENE			0		4			0	0		Physical Society.
Friedrichshafen	28.97	735.7	30.51	775.0	24.1	— 4.4	91	SSW			1		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.30	769.6	30.37	771.4	33.1	0.6	80	SW			2		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.31	769.9	30.33	770.3	34.3	1.3	75	SW			2		4			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.26	768.5	30.35	770.8	23.0	— 5.0	76	SW			4		0			0	0		Prof. E. Luther.
Köslin			30.36	770.9	26.8	— 2.9		SE			2		0			0	0		H. Müller.
Leipsic Observatory	30.00	761.9	30.44	773.2	33.8	1.0	96	SW			2		0			0	0	Hazy..	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.19	766.8	30.42	772.7	30.4	— 0.9	71	SSE			1		1cs			0	0		Dr. Assmann.
Memel	30.22	767.5	30.26	768.7	33.6	0.9	98	WSW			2	2c							Reinbrecht & Issermann
Munich (München)	28.55	725.2	30.44	773.2	27.1	— 2.7	87	Calm			0		0			0	0		Dr. C. Lang.
Neufahrwasser	30.32	770.1	30.34	770.5	31.1	— 0.5	77	SSW			1		0			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.90	759.4	30.43	773.0	29.7	— 1.3		W			1		0			0	0		Reallehrer Dicknether.
Posen	30.12	765.0	30.43	772.8	31.5	— 0.3	72	W			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.91	759.8	30.50	774.8	28.6	— 1.9	85	NE			1		5			0	0		Imp. University Observatory.
Stuttgart	29.48	748.7	30.48	774.1	32.9	0.5	87	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.25	768.3	30.44	773.2	30.6	— 0.8	85	SW			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.89	733.9	30.49	774.5	31.5	— 0.3	79	Calm	0	0						0	0	Light fog	Reallehrer J. Hopfner.
Wustrow	30.32	770 2	30.35	770.8	34.2	1.2	96	SSE			2		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.04	763.1	30.44	773.2	51.3	10.7		NE			2.0		5					⅛ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.6	30.00	761.9	69.0	20.6	35	N	9	4.0			0			0	0	Blue sky	
Deesa	29.50	749.3	29.98	761.4	80.7	27.1	26	SW	7.8	3.5			1	W		0	0	D. clouds	
Bombay	29.90	759.4	29.94	760.4	77.3	25.2	70	NNW	20	8.9			0			0	0	Blue sky	
Poona (Yarrowda)	28.05	712.4	29.88	758.9	86.1	30.1	11	NW	4	1.8			1		WSW	0	0	D. clouds	
Belgaum	27.38	695.6	29.89	759.2	83.0	28.3	36	SE	1	0.4			2		NW	0	0	D. clouds	
Lahore	29.16	740.6	29.92	760.0	67.7	19.8	38	NE	2.1	0.9			7					Showery	
Roorkee	29.10	739.0	30.04	762.9	61.8	16.6	72	SE	2.4	1.1			10			0	0		
Agra	29.42	747.3	30.00	762.1	70.7	25.1	42	SE	2.3	1.0			0			0	0		
Nagpur	28.91	734.4	29.97	761.1	79.7	26.5	25	Calm	2.1	0.9			0			0	0	Blue sky	
Jubbulpore	28.60	726.4	29.09	761.6	73.4	23.0	39	Calm	1.6	0.7			0			0	0	Blue sky	
Lucknow	29.63	752.6	30.02	762.4	69.6	20.9	35	Calm	0.3	0.1			4	NW		0	0	D. clouds	
Allahabad	29.72	754.8	30.04	763.0	64.1	17.8	60	Calm	0.4	0.2			0			0	0	Blue sky	
Patna	29.85	758.3	30.04	763.0	69.5	20.8	52	W	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.98	710.6	30.05	763.2	65.8	18.8	39	NNW	3.3	1.5			2			0	0	D. clouds	
Cuttack	29.93	760.2	30.01	762.3	78.0	25.6	61	Calm	0.5	0.2			0			0	0	Blue sky	
Jalcutta (Alipore)	29.99	761.6	30.01	762.2	69.0	20.6	62	WSW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.60	752.0	30.00	762.0	74.1	23.4	50	Calm	1.7	0.8			0			0	0		
Chittagong	29.93	760.2	30.02	762 5	72.0	22.2	78	WSW	3.0	1.3			0			0	0		
Sibsagar	29.68	753.8	30.02	762.6	65.7	18.7	73	ENE	1.1	0.5			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,650 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.98	761.5	30.41	772.3	49.3	9.6	27	W	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Milan	29.89	759.3	30.44	773.2	42.6	5.9	71	WSW			1		7	S		0	0		Prof. Schiaparelli.
Padua	30.33	770.3	30.44	773.2	43.5	6.4	45	NW	3.1	1.4			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.62	749.8	30.47	773.8	39.2	4.0	80	NNE	3.1	1.4			2	N		0	0		Prof. P. F. Denza.
Genoa	30.21	767.2	30.40	772.2	40.3	4.6	28	N	1.8	0.8			4	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.47	723.0	30.44	773.2	41.0	5.0	54	NW			2		7			0	0		Prof. D. C. Bruno.
Pesaro	30.37	771.4	30.42	772 6	40.6	4.8	61	NW	10.5	4.7			2			0	0		Prof. Luigi Guidi.
Florence	30.11	764.8	30.38	771 6	52.7	11.5	37	E			2		0			0	0		Cav. F. Meucci.
Leghorn	30.32	770.0	30.40	772.2	54.3	12.4	36	ENE	5.6	2.5			4			0	0		Prof. P. Monte.
Rome	30.16	766.1	30.34	770.7	57.2	14.0	47	N	3.8	1.7			7			0	0		Prof. P. S. Ferrari
Lecce	30.10	764.6	30.36	771.2	55.2	12.9	69	NE	1.3	0.6			4			0	0		Prof. C. De Giorgi
Cosenza	29.44	747.8	30.35	771.0	48.2	9.0	68	NW	0	0			9			0	0		Prof. D. Conti.
Cagliari	30.02	762.4	30.22	767.5	57.2	14.0	76	Calm			0		7	E		0.205	5.2		Prof. A. Pacinotti.
Palermo	30.04	762.9	30.26	768.7	55.8	13.2	71	NE	4.3	1.9			10			0	0		Prof. G. Ciacciatore.
Syracuse	30.14	765.5	30.18	766.6	54.3	12.4	85	ESE	16.1	7.2			10	ESE		0.378	9.6		Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	28.99	736.3	30.31	769.8	55.6	13.1	60	NE	1.8	0.8			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 550 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.00	762.0	30.01	762.2	47.0	8.3	96	NNE	3.6	1.6			10n			0.105	2.67	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.90	759.4	30 11	764.8	52.4	11.3	88	NW	7.1	3.2			10n			0.300	7.62	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.81	757.2	29.88	758 9	41.5	5.3	95	SE	3.3	1.5		0	0			0	0	Fair	The Staff.
Wakayama	29.91	759.7	29.90	761.0	48.3	9.1	90	SW	2.7	1.2			10ns			0.037	0.94	Raining	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.03	635.8	30.10	766.7	45.0	7 2	56	Calm			0	0	0			0	0	Very clear	Prof. L. Perez.
Leon	24.41	620.0	30.16	766.1	53.4	11.9	79	W			1	6c	0	SW		0	0	Fair	Prof. M. Leal.
Mazatlan	29.80	756.9	30.07	763.7	52.5	11.4	65	NW			1	1c	3s	SW		0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.04	585.2	30.15	765.9	46 4	8.0	61	Calm	0	0		0	0			0	0	Very fine	The Staff
Morelia	24.03	610.2			50.7	13.7	58	SE			6	5c	4k	SW	SE	0	0	Cloudy	M. Fena, M. D.
Pabellon (Aguascalientes)	23.91	607.3	30.00	761.9	45.9	7.7	68	Calm			0	7c	1s			0	0	Cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.40	594.4	30.34	770.7	41.9	5.5	74	Calm	0	0			0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.10	612.0	30.11	764.7	52.5	11.4	36	W			1	5	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.88	759.0	29.89	759.3	69.4	20.8	91	NW			1	2	1	N	E	0	0		Prof. M. M. Chazaro.
Vera-Cruz	29.88	758.9	29.91	759 6	76.1	24.5	75	N	7.4	3.3			7ks		N	0	0	Cloudy	Prof. J. Rossell
Zacatecas																0	0		J. C. Castrillon

NOTE.—The elevation of Colima, is 507.3 m., or 1,664.4 ft.; Guadalajara 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.6 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.5 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.39	772.0	30.39	772.0	39 0	3.9		SSW			0					0	0		
Groningen	30.30	769.5	30.35	770.9	32.4	0.2		SW			0					0	0		
Helder	30.32	770.2	30.32	770.2	36.7	2.6		S			2					0	0		
Hellevoetsluis	30.34	770.5	30.34	770.5	38.7	3.7	76	SSW			2					0	0		
Utrecht	30.34	770.7	30.39	771.9	38.8	3.8	75	S			0		2			0	0	Sl'ly cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Empera-ure of he Air. Fahrenheit.	Empera-ure of he Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.87	758.6	29.92	760.0	42.8	6.0	97	S	21.0	9.4			10			1.102	28.0		
Brönö	29.62	752.3	29.67	753.5	39.2	4.0	80	SW	18	8			9			0.180	4.8		
Christiana	29.77	756.2	29.92	760.0	39.6	4.2	93	SSW	9	4			10			0	0	Foggy	
Tromsö	29.34	745.1	29.38	746.2	31.3	— 0.4	92	SW	7	3			10			0.492	12.5	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.32	770.1	58.3	14.6	54	ENE	2.5	1.1			2			0	0		Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.11	764.9	30.20	767.1	66.0	18.9	73	ENE	5.6	2.5			0			0.071	1.8		Capt. D. A. de Cunha.
Lisbon Observatory	29.98	761.5	30.35	770.8	54.5	12.5	63	NNE	15.4	6.9			0			0	0		The Staff.
Ponta Delgada (Azores)	30.12	765.0	30.19	766.8	61.2	16.2	87	Calm	0	0			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0–9	Sea or swell: Direction form—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. . e Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa, San Jose de Bissao, Senegambia			D. clouds	A. de SouzaRoza, 2nd L't
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, Lobito, Benguela			D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			Raining, 12 hr's rain-fall.	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.32	744.6	29.34	745.1	29.1	— 1.6	92	W	22	10			10						Capt. Sseliwerstow.
Astrakhan	30.46	773.6	30.37	771.5	20.1	— 6.6	79	WSW	13	6			6cs;s						Capt. Wisganow.
Barnaul	29.29	744.0	29.83	757.7	10.8	—11.8	100	SW	31	14			10						Meteorological Obs.
Dorpat	29.80	757.0	30.06	763.4	34.5	1.4	96	WSW	7	3			10n						Prof. Dr. Weihrauch.
Ekaterinburg*	28.19	715.9	29.16	740.6	32.5	0.3	85	WSW	27	12			10						Meteorological Obs.
Irkutsk																			
Kasan	29.31	744.4	29.58	751.5	34.2	1.2	95	WSW	13	6			10						Physical Cabinet.
Kertch	30.58	776.7	30.60	777.2	20.3	— 6.5	100	Calm	0	0			10						Lagorio.
Kieff	29.73	755.1	30.40	772.2	30.4	— 0.9	71	WSW	2	1			0						Physical Cabinet.
Krotkowo*																			Cand. Fatjanow.
Lugan	30.24	768.1	30.46	773.7	20.7	— 6.3	95	WSW	13	6			0						Meteorological Obs.
Moscow	29.45	747.9	30.02	762.4	32.7	0.4	73	SE	13	6			10s						Meteorological Obs.
Nertchinsk	28.02	711.6	30.69	779.6	—18.6	—28.1	74	NW	2	1			0						Meteorological Obs.
Nikolaiev	30.55	776.0	30.62	777.8	13.6	—10.2	83	WSW	4	2			2cs						Kurdakof.
Nukuss	30.25	768.4	30.50	774.8	25.9	— 3.4	65	SSW	13	6			10kn						
Orenberg																			
Pekin (China)	30.33	770.3	30.47	773.9	21.9	— 5.6	55	Calm	0	0			9n						Physical Observatory.
St. Petersburg	29.91	759.7	29.93	760.1	34.2	1.2	96	W	13	6			10n						Central Physical Obs.
Tashkend	29.02	737.2	30.78	781.7	13.3	—10.4	100	SE	4	2			10						Teich, A. M.
Tiflis	29.09	738.8	30.60	777.3	30.9	— 0.6	62	Calm	0	0			9s					Light clouds	Physical Observatory.
Vladivostock																			
Warsaw	29.97	761.2	30.42	772.6	32.4	0.2	71	SW	7	3			0						Astronomical Obs.
Wilna	29.86	758.5	30.31	769.9	27.5	— 2.5	63	Calm	0	0			2					Light clouds	Astronomical Obs.
Yeniseisk	29.61	752.1	29.93	760.2	— 5.8	—21.0	82	E	7	3			10					Light clouds	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.26	768.5	30.36	771.2	56.8	13.8	62	ESE	1.1	0.50			1			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.34	770.5	30.39	771.9	61.7	16.5	53	SE	2.1	0.94		0	0			0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.38	695.4			44.6	7.0	85	NE	1.8	0.82		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.08	713.3	30.36	771.2	52.5	11.4	66	NE	1.5	0.67		0	2			0.008	0.2	Light clouds	The Staff.
Murcia, Met. Obs'y	30.17	766.2	30.32	770.1	59.5	15.3	68	NE	2.2	1.00		5	5	SW		0.078	1.98	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.43	747.6	30.34	770.5	59.0	15.0	63	NE	1.3	0.6			1			0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.93	760.2	30.00	761.9	67.5	19.7	86	ESE	0.9	0.4		0	0			0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.98	761.6	30.04	762.9	81.7	27.6	78	NE					1s		E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.18	766.5	30.28	769.1	61.2	16.2	60	ESE	12.7	5.7		0	7		E	0.008	0.2		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.00	762.0	30.09	764.3	73.0	22.8	82	SE	9.7	4.34		6ckn	5kn	SE	SE	0.059	1.50	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.57	751.1	29.61	752.1	31.3	— 0.4		SW			4		10			0	0		
Umea	29.74	755.4	29.79	756.7	27.0	— 2.8	100	W			2		10			0	0		
Hernosand	29.82	757.5	29.87	758.8	38.8	3.8	70	W			2		10			0	0		
Stockholm	29.84	757.8	30.01	762.3	40.5	4.7	86	W			2		7			0	0		
Wisby	29.99	761.8	30.05	763.3	38.5	3.6	87	WSW			4		8			0	0		
Sub-Series.																			
Upsala	29.87	758.6	29.95	760.8	38.9	3.5	94	SW	14.3	6.4			10		WSW	0	0		Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder,																			A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.00	736.6	30.51	774.9	28.6	— 1.9	100	NNW			1		10			0	0	Foggy	The Observatory.
Zurich	28.76	730.5	30.50	774.6	26.6	— 3.0	86	N			1		2			0	0	Clear.	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +9.5 mm.; Thermometer, —4.3 Cent. Relative Humidity, +25 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.52	775.3	42.4	5.8	71	ENE	11	5.0		4				0	0		The Observatory.
Fao, Persian Gulf																			
Valona			30.33	770.3	59.2	15.1		NE			1		5			0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.24	768.1	58.6	14.8		ESE			3		0			0	0		Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	30.15	765.8	30.16	766.1	—12	—24.4		NW	10	4.5		0	0			0	0	Clear	Hon. J. Ferguson.
Chatham, N. B.	30.12	765.0	30.19	766.8	—13.1	—25.1	89	W	3	1.3		0	0			0.01	0.3	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.04	763.0	30.09	764.3	— 7.4	—21.9	100	NW	12	5.4		0	2s			0.20	5.1	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.30	769.6	30.53	775.4	—11.7	—24.3	100	W			1	0	0			0	0	Clear.	James Smith, M. A.
Dalhousie, N. B.	30.04	763.0	30.23	767.8	—16.0	—26.7		W			3	0	0			0	0	Clear	H. A. Johnson.
Father Point, Quebec					—11.8	—24.3	100	NW	14	6.3		1k	8s			0	0	Fair	J. McWilliams.
Fredericton, N. B.	30.24	768.1	30.31	769.9	—12.9	—24.9	95	NW	12	5.4		0	0			0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.36	745.7	30.29	769.4	— 4.4	- 20.2	100	N	16	7.2		5k	5n	N		0	0	Cloudy	James Stewart.
Granton, Ontario	29.22	742.2	30.46	773.7	2.0	—16.7	100	Calm			0	0	0			0.10	2.5	Clear.	James Grant.
Halifax, N. S.	30.01	762.2	30.14	766.1	— 1.3	—18.5	90	NW	10	4.5		0	0			0.040	1.02	Clear.	A. Allison.
Hamilton, Ontario	30.08	764.0	30.49	774.4	13.9	—10.1	84	W			1	10cs	0	W		0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.																			E. Weedon.
Kingston, Ontario	30.17	766.3	30.56	776.2	— 7.0	—21.7	85	E	3	1.3		7cs	0			0.13	3.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.94	760.5	29.98	761.5	1.5	—16.9	97	NW	6	2.7		6k	0	NW		0	0	Fair	C. H. Rigby.
Montreal, Quebec	30.30	769.6	30.53	775.1	—11.2	—24.0	71	W	13	5.8		0	0			0.15	3.8	Clear.	C. H. McLeod, C. E
Moose Factory, Ontario	30.12	765.0	30.16	766.1	—23.2	—30.7	92	SW			3	0	0			0	0	Clear.	J. R. Nelson.
Norwood, Ontario																			Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.68	753.9	30.47	773.0	— 3.0	—19.4	83	E	3	1.3		5k	8ks	NE		0.01	0.3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.68	753.9	30.51	774.9	— 3.0	—19.4	100	NE			1		10ks			0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.99	754.1	30.46	773.7	12.1	—11.1	61	NE	6	2.7		10k	0	NW		0.03	0.8	Cloudy	H. Morgan.
Port Stanley, Ontario	29.70	754.4	30.42	772.7	13.2	—10.4	79	E	7	3.1			10ks			Inap.	Inap.	Cloudy	M. Payne.
Quebec, Quebec	30.05	763.3	30.44	773.2	—21.0	—29.4	64	NW			6	0	0			0.10	2.5	Clear.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.93	760.2	30.48	774.2	—26.7	—32.6	100	Calm	0	0			8s			0	0	Cloudy	W. H. McIntyre.
St. John, N. B.	30.09	764.3	30.28	769.1	10	—12.2	100	W	10	4.5		0	0			0.14	3.6	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.61	752.1	30.40	772.1	12.4	—10.9	96	S	16	7.2			10ks			0.06	1.5	Cloudy	Miss K. Stewart.
Stratford, Ontario	29.91	736.8	30.43	772.9	7.3	—13.7	91	Calm	0	0		2cs	2s	SW		0	0	Fair	C. J. MacGregor, M. A
Sydney, C. B.	29.91	759.7	29.95	760.7	0.3	—17.6	85	NW	7	3.1		0	1ks			0.04	1.0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	30.06	763.5	30.40	774.4	9.9	—12.3	90	N	2	0.9			10n			Inap.	Inap.	Cloudy	Magnetic Observatory
Windsor, N. S.	30.03	762.7	30.14	765.5	— 1.5	—18.6	100	NW	13	5.8		5k	0			0.05	1.3	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.26	743.2	30.44	773.2	9.3	—12.6	91	E	5	2.2		0	9ks		W	0.10	2.5	Cloudy	Professor Wolverton.
Yarmouth, N. S.	30.20	767.1	30.26	768.6	6.0	—14.4	73	N	15	6.7			8s			0.40	10.2	Light snow.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.51	749.5	29.78	756.4	15	— 9.4	82	W				0	5s			0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime			29.69	754.1	12.9	—10.6		NW			3					0	0		The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.32	770.1	30.59	777.0	— 3	—19.4	66	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.67	753.6	30.40	772.1	— 1	—18.3	68	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.85	732.8	30.03	762.7	37	2.8	90	E	16	7.2	.....	.....	10n	.....	E	0.70	15.2	Light rain	
Atlantic City, New Jersey	30.47	773.9	30.49	774.4	13	—10.6	44	N	16	7.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Augusta, Georgia	29.94	760.5	30.15	765.8	41	5.0	82	NE	9	4.0	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	
Baltimore, Maryland	30.45	773.4	30.51	774.9	17	— 8.3	67	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Barnegat, New Jersey	30.42	772.7	30.45	773.4	13	—10.6	62	N	22	9.8	.....	0	2s	.....	NE	Inap.	Inap.	Clear.	
Bismarck, Dakota	28.33	719.6	30.18	766.6	11	—11.7	79	N	28	12.5	.....	5cs	0	Calm	.....	0.01	0.3	Fair	
Boerne, Texas	28.49	723.6	29.85	758.2	35	1.7	90	N	24	10.7	.....	5k	0	N	.....	0	0	Fair	
Boise City, Idaho	27.75	704.8	30.71	780.0	18	— 7.8	77	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	30.30	769.6	30.47	773.9	— 1	—18.3	87	NW	15	6.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Brackettville, Texas	28.89	733.8	29.99	761.7	36	2.2	71	NW	12	5.4	.....	0	0	.....	.....	0.10	2.5	Clear.	
Breckenridge, Minnesota	28.97	735.8	30.05	763.3	10	—12.2	100	S	2	0.9	.....	.....	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.06	763.5	30.11	764.8	41	5.0	74	N	8	3.6	.....	0	0	.....	.....	0.32	8.1	Clear	
Buffalo, New York	29.69	754.1	30.48	774.2	10	—12.2	79	SE	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.24	768.1	30.59	777.0	— 7	—21.7	59	SE	5	2.2	.....	2ck	2ks	NW	NW	0.91	0.3	Fair	
Cairo, Illinois	29.76	755.9	30.18	766.6	26	— 3.3	63	NE	11	4.9	.....	0	5s	.....	SW	0	0	Fair	
Campo, California	27.58	700.8	30.15	765.8	28	— 5.0	86	E	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.30	769.6	30.31	769.9	41	5.0	74	NE	28	12.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Henry, Virginia	30.37	771.4	30.39	771.9	30	— 1.1	68	N	21	9.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Lookout, N. Carolina	30.25	768.3	30.26	768.6	41	5.0	82	NE	36	16.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape May, New Jersey	30.45	773.4	30.48	774.2	13	—10.6	61	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Castroville, Texas	29.22	742.2	29.95	760.7	39	3.9	64	NW	16	7.2	.....	0	2ks	.....	NW	0.32	8.1	Fair	
Cedar Keys, Florida	29.92	760.0	29.95	760.7	64	17.8	94	SE	9	4.0	.....	0	5s	.....	SE	0	0	Fair	
Charleston, South Carolina	30.04	763.0	30.09	764 3	41	5.0	82	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Threatening	
Charlotte, North Carolina	29.36	745.7	30.22	767.6	32	0.0	100	NE	7	3.1	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
Chattanooga, Tennessee	29.22	742.2	30.06	763.5	32	0.0	79	NE	14	6.3	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	15	— 9.4	65	N	16	7.2	.....	0	2s	.....	NW	0	0	Clear.	
Chicago, Illinois	29.53	750.0	30.2	760.1	22	— 5.6	58	SE	5	2.2	.....	5ck	0	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.62	752.3	30.33	770.4	21	— 6.1	71	E	8	3.6	.....	0	1s	.....	Calm	0	0	Clear.	
Cleveland, Ohio	29.60	751.8	30.40	772.1	14	—10.0	64	E	3	1.3	.....	1k	0	Calm	.....	Inap.	Inap.	Clear.	
Coleman City, Texas	28.28	718.3	30.04	763.0	31	— 0.6	79	N	22	9.8	.....	.....	10s	.....	N	1.06	26.9	Cloudy	
Columbus, Ohio	29.44	747.8	30.35	770.9	19	— 7.2	69	E	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear.	
Concho, Texas	28.16	715.3	29.93	760.2	32	0.0	89	NE	.....	.....	2	.....	10ks	.....	Calm	0.76	19.3	Cloudy	
Corsicana, Texas	29.47	748.5	29.96	761.0	32	0.0	89	N	16	7.2	.....	.....	10n	.....	Calm	1.79	45.5	Light snow.	
Davenport, Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dayton, Washington T'y	.....	.....	.....	.....	24	— 4.4	87	E	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Deadwood, Dakota	25.48	647.2	.....	.....	20	— 6.7	70	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Decatur, Texas	28.85	732.8	30.06	763.5	36	2.2	71	NW	8	3.6	.....	.....	10s	.....	NW	0.90	22.9	Cloudy	
Denison, Texas	29.19	741.4	30.02	762.5	34	1.1	90	NW	2	0.9	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Denver, Colorado	24.92	633.0	30.14	765.5	17	— 8.3	75	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Des Moines, Iowa	29.19	741.4	30.12	765.0	24	— 4.4	74	SW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.64	752.8	30.38	771.6	15	— 9.4	82	E	1	0.4	.....	.....	10s	.....	Calm	.....	0	Cloudy	
Dodge City, Kansas	27.45	697.2	29.91	759.7	16	— 8.9	66	W	6	2.7	.....	0	0	.....	.....	.....	0	Clear.	
Dubuque, Iowa	29.43	747.5	30.18	766.6	19	— 7.2	69	S	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.34	745.2	30.08	764.0	8	—13.3	89	SW	2	0.9	.....	.....	10s	.....	W	0.13	3.3	Cloudy	
Eagle Pass, Texas	29.30	744.2	30.07	763.8	36	2.2	71	N	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Eastport, Maine	30.22	767.6	30.30	769.6	—10	—23.3	54	NW	28	12.5	.....	0	2s	.....	NW	0.04	1.0	Clear	
Edinburg, Texas	.....	.....	.....	.....	39	3.9	82	NW	.....	.....	4	0	0	.....	.....	0.09	2.3	Clear	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.65	753.1	30.44	773.2	17	— 8.3	67	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.54	750.3	30.26	768.6	7	—13.9	77	SW	5	2.2	.....	.....	10n	.....	SW	Inap.	Inap.	Light snow.	
Florence, Arizona	28.71	729.2	30.31	769.9	32	0.0	69	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.24	717.3	30.27	768.8	8	—13.3	78	NW	8	3.6	.....	10cs	0	NW	.....	0.13	3.3	Cloudy	
Fort Custer, Montana	27.18	690.4	.....	.....	28	— 2.2	89	NW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.14	638.5	30.10	764.5	33	0.6	79	W	12	5.4	.....	0	0	.....	.....	Inap	Inap.	Clear.	
Fort Gibson, Indian Ter	29.47	748 5	30.03	762.7	36	2.2	53	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Grant, Arizona	25.33	643.4	30.13	765.3	25	— 3.9	63	SE	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear.	
Fort Griffin, Texas	28.80	731.5	30.14	765.5	33	0.6	89	N	8	3.6	.....	.....	10s	.....	Calm	1.22	31.0	Cloudy	
Fort Keogh, Montana	27.56	700.0	.....	.....	27	— 2.8	100	N	3	1.3	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
Fort McKavett, Texas	27.74	704.6	29.76	755.9	28	— 2.2	66	N	16	7.2	.....	0	1s	.....	N	0.52	13.2	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	29.98	761.5	33	0.6	89	N	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.32	719.3	.....	.....	10	—12.2	79	N	22	9.8	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Fort Verde, Arizona	.....	.....	.....	.....	10	—12.2	58	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.84	757.9	33	0.6	79	N	14	6.3	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Galveston, Texas	29.82	757.4	29.87	758.7	42	5.6	83	W	22	9.8	.....	.....	10ks	.....	W	0.89	22.6	Threatening	
Graham, Texas	28.96	735.6	30.06	763.5	32	0.0	79	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.59	751.6	30.30	769.6	18	— 7.8	68	E	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.10	739.1	30.07	763.8	36	2.2	80	NW	12	5.4	.....	.....	10s	.....	SW	0.14	3.6	Cloudy	
Indianapolis, Indiana	29.42	747.3	30.27	768.8	18	— 7.8	53	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	29.96	761.0	29.99	761.7	40	4.4	82	SW	14	6 3	.....	0	1s	.....	SW	0.63	16.0	Clear.	
Jacksboro, Texas	28.87	733.3	30.05	763.3	35	1.7	80	N	12	5.4	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Jacksonville, Florida	29.95	760.7	29.97	761.2	61	16.1	77	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Keokuk, Iowa	29.49	749.0	30.15	765.8	21	— 6.1	78	SE	6	2.7	.....	0	2s	.....	Calm	0	0	Clear.	
Key West, Florida	30.06	763.5	30.09	764.3	72	22.2	85	S	12	5.4	.....	2k	0	SE	.....	0.12	3.0	Fair	
Kittyhawk, North Carolina	30.33	770.4	30.36	771.1	37	2.8	71	NE	26	11.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Knoxville, Tennessee	29.10	739.1	30.15	765.8	32.5	0.3	65	NE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.30	744.2	30.08	764.0	22	— 5.6	72	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	26	— 3.3	88	Calm	0	0	.....	0	0	.....	.....	0.28	7.1	Clear.	
Laredo, Texas	29.70	754.4	30.06	763.5	40	4.4	82	NW	10	4.5	.....	0	0	.....	.....	0.23	5.8	Clear.	
Leavenworth, Kansas	29.22	742.2	30 12	765.0	26	— 3.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	23	— 5.0	85	E	6	2.7	.....	5ck	0	E	.....	0	0	Fair	
Little Rock, Arkansas	29.65	753.1	30.03	762.7	34	1.1	70	NE	12	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Los Angeles, California	29.94	760.5	30.30	769.6	43.5	6.4	59	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.61	752.1	30.21	767.3	22	— 5.6	72	NE	13	5.8	.....	5ck	2s	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.70	754.4	30.45	773.4	23	— 5.0	72	NE	4	1.8	.....	6cs	0	W	.....	0	0	F ir	
Madison, Wisconsin	29.11	739.4	30.17	766.3	19	— 7.2	85	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.43	747.5	30.20	767.1	10	—12.2	58	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.22	767.6	33	0.6	100	NE	18	8.0	.....	.....	10n	.....	Calm	0.15	3.3	Light rain	
Memphis, Tennessee	29.67	753.6	30.02	762.5	31	— 0.6	60	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.45	748.0	30.24	768.1	17	— 8.3	88	S	7	3.1		0	5s		Calm	0	0	Fair	
Mobile, Alabama	29.75	755.6	29.79	756.7	46	7.8	100	E	5	2.2			10n		E	2.41	61.2	Light rain	
Montgomery, Alabama	29.69	754.1	29.93	760.2	44	6.7	92	E	10	4.5			10ks		E	1.01	25.7	Threatening	
Morgantown, West Virginia	29.30	744.2	30.40	772.1	13	—10.6	62	NE	6	2.7		0	0			0.03	0.8	Clear.	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	—15	—26.1	42	NW	54	24.1		0	0			0	0	Clear.	
Nashville, Tennessee	29.63	750.0	30.09	764.3	29	— 1.7	67	NE	4	1.8		0	5ks		N	0	0	Fair.	
New Haven, Connecticut	30.37	771 4	30.50	774.7	6	—14.4	76	N	8	3.6		0	0			Inap.	Inap.	Clear	
New London, Connecticut	30.41	772.4	30.47	773.9	6	—14.4	52	N	8	3.6		0	0			Inap.	Inap.	Clear.	
New Orleans, Louisiana	29.56	750.8	29.62	752.3	52	11.1	93	E	29	13.0			10n		Calm	1.34	34.0	Light rain	
Newport, Rhode Island	30.41	772.4	30.46	773.7	5	—15.0	75	NW	14	6.3		0	0			0	0	Clear.	
New River, North Carolina																			
New York, New York	30.29	769.4	30.49	774.4	11	—11.7	79	NW	10	4.5		0	Haze		Calm	0	0	Clear.	
Norfolk, Virginia	30.29	769.4	30.36	771.1	28	— 2.2	88	NW	8	3.6			10s		Calm	0	0	Cloudy	
North Platte, Nebraska	27.20	690.9	29.91	759.7	26	— 3.3	75	NW	6	2.7			10s		NW	0	0	Cloudy	
Olympia, Washington Ter.	30.79	782.0	30.83	783.1	35.0	1.7	100	Calm	0	0			10s		Calm	0	0	Cloudy	
Omaha, Nebraska	28.90	734.0	30.06	763.5	23	— 5.0	73	NW	2	0.9		0	1s		Calm	0	0	Clear.	
Oswego, New York	30.17	766.3	30.53	775.4	9	—12.8	68	SE	6	2.7			10s		Calm	0.11	2.8	Cloudy	
Pembina, Dakota	29.23	742.4	30.10	764.1	— 3	—19.4	100	NW	16	7.2			10s		Calm	0.01	0.3	Cloudy	
Pensacola, Florida	29.80	756.9	29.83	757.7	48	8.9	93	E	15	6.7			10s		E	0.47	11.9	Cloudy	
Philadelphia, Pennsylvania	30.43	772.9	30.49	774.4	12	—11.1	61	NE	16	7.2		0	0			0	0	Clear.	
Phœnix, Arizona	29.10	739.1	31.03	788.1	35	1.7	90	E	3	1.3		0	0			0	0	Clear	
Pike's Peak, Colorado	17.47	443.7	29.68	753.9	—17	—27.2	100	NW	11	4.9			10n		Calm	0.08	2.0	Light snow.	
Pilot Point, Texas																			
Ploche, Nevada	24.24	615.7	30.01	762.2	21	— 6.1	71	N	8	3.6		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.54	750.3	30.44	773.2	12	—11.1	80	NE	8	3.6		0	0			Inap.	Inap.	Clear	
Port Huron, Michigan	29.65	753.1	30.39	771.9	9	—12.8	78	SE	4	1.8			10s		SW	0.02	0.5	Cloudy	
Portland, Maine	30.35	770.9	30.40	772.1	0	—17.8	42	N	8	3.6		0	0			0	0	Clear	
Portland, Oregon	30.75	781.0	30.83	783.1	36	2.2	90	NW	4	1.8			10s		NW	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina					42	5.6	66	NE	35	15.6			10s		NE	0	0	Cloudy	
Prescott, Arizona	24.91	632.7	30.27	768.8	7	—13.9	77	SW			1	0	0			0	0	Clear	
Punta Rassa, Florida	29.96	761.0	29.98	761.5	68	20.0	84	E	10	4.5		8ck	0	SW		0	0	Fair	
Red Bluff, California	30.09	764.3	30.47	773.9	47	8.3	84	NW	17	7.6		0	0			0	0	Clear	
Rio Grande City, Texas	29.91	759.7	30.14	765.5	39	3.9	64	NW	8	3.6		0	0			0	0	Clear	
Rochester, New York	29.78	756.4	30.47	773.9	10	—12.2	79	NW	2	0.9			10s		Calm	0.28	7.1	Cloudy	
Roseburg, Oregon	30.19	766.8	30.81	782.6	31	— 0.6	95	N	5	2.2			10s		Calm	Inap.	Inap.	Cloudy	
Sacramento, California	30.34	770.6	30.42	772.7	37	2.8	81	E	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.59	751.6	30.22	767.6	20	— 6.7	70	NE	7	3.1		0	1ks		Calm	0	0	Clear	
St. Paul, Minnesota	29.12	739.6	30.01	762.2	13	—10.6	71	SE	2	0.9		1ck	0	W		9	0	Clear	
Salt Lake City, Utah	26.01	660.6	30.34	770.6	12	—11.1	42	SE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.35	745.5	29.95	760.7	38	3.3	72	NW	12	5.4		0	0			0.55	14.0	Clear	
San Diego, California	30.23	767.8	30.30	769.6	41	5.0	74	NE	3	1.3		1c	0	NW		0	0	Clear	
Sandusky, Ohio	29.67	753.6	30.41	772.4	17	— 8.3	83	SE	5	2.2		0	0			Inap.	Inap.	Clear	
Sandy Hook, New Jersey	30.43	772.9	30.47	773.9	10	—12.2	58	N	18	8.0		0	0			0	0	Clear	
San Francisco, California	30.34	770.6	30.41	772.4	43	6.1	87	N	3	1.3		0	0			0	0	Clear	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	13	—10.6	44	NE	3	1.3		0	0			0	0	Clear	
Savannah, Georgia	29.96	761.0	30.06	763.5	54	12.2	74	NE	16	7.2			10s		E	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	29.61	752.1	29.84	757.9	35	1.7	100	NW	0	2.7			10n		Calm	2.27	57.7	Light sleet	
Silver City, New Mexico																			
Smithville, North Carolina	30.16	766.1	30.20	767.1	45	7.2	84	N	21	9.4			10s		Calm	0.01	0.3	Cloudy	
Socorro, New Mexico	25.47	646.9	29.54	750.3	16	— 8.9	66	N	4	1.8		0	0			0.01	0.3	Clear	
Springfield, Illinois	29.52	749.8	30.24	768.1	21	— 6.1	71	SE	6	2.7		0	0			Inap.	Inap.	Clear	
Springfield, Massachusetts	30.38	771.6	30.53	775.4	3	—16.1	46	NW	5	2.2		0	0			Inap.	Inap.	Clear	
Stockton, Texas	27.14	689.3	30.14	765.5	30	— 1.1	16	NW				0	0			Inap.	Inap.	Clear	
Thatcher's Island, Mass	30.42	772.7	30.48	774.2	1	—17.2	71	W	8	3.6		5k	Haze	W		0	0	Fair	
Toledo, Ohio	29.63	752.6	30.38	771.6	18	— 7.8	53	S	1	0.4		0	2s			Inap.	Inap.	Clear	
Tucson, Arizona	27.73	704.3	30.28	769.1	30	— 1.1	78	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	30.48	774.2	31.04	788.4	20	— 6.7	85	SE	4	1.8		0	0			0	0	Clear	
Uvalde, Texas	29.15	740.4	30.00	762.0	36	2.2	80	NW	12	5.4		0	0			0.14	3.6	Clear	
Vicksburg, Mississippi	29.56	750.8	29.82	757.4	35	1.7	100	E	8	3.6			10n			0.93	23.6	Light rain	
Virginia City, Montana	24.57	624.1	30.05	763.3	11	—11.7	60	Calm	0	0		Haze	0	Calm		0	0	Clear	
Visalia, California	29.99	761.7	30.38	771.6	30	— 1.1	89	E	2	0.9		0	0			0	0	Clear	
Washington, D. C.	30.36	771.1	30.49	774.4	16	— 8.9	83	NE	4	1.8		0	1s		Calm	0	0	Clear	
Wickenburg, Arizona					26	— 3.3	88	NW			1	0	0			0	0	Clear	
Wilmington, North Carolina	30.14	765.5	30.23	767.8	39	3.9	64	NE	15	6.7			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	26.07	662.2	30.43	772.9	17	— 8.3	83	SE	5	2.2		0	0			0	0	Clear	
Wood's Holl, Massachusetts	30.41	772.4	30.45	773.4	4	—15.6	73	N	8	3.6		0	0			0	0	Clear	
Yankton, Dakota	28.78	731.0	30.16	766.1	21	— 6.1	71	W	4	1.8		0	0			0	0	Clear	
Yuma, Arizona	30.13	765.3	30.28	769.1	39	3.9	46	NE	3	1.3		0	0			0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	70	21.1	79	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.					73	22.8	82	Calm	0	0		2c	8cs	Calm				Fair	James Gall.
Navassa, W. I.	29.93	760.2	30.01	762.2	74.5	23.6	77												F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	80	26.7	82	E			3	5k	6ks	E		0.140	3.56	½ cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.41	747.0	29 96	761.0	80	26.7	85	Calm			0		10ks			0	0		Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.03	762.7	30.06	763.5	74	23.3	76	Calm	0	0		0	0						Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.10	764.5	30.16	766.1	—22.0	—30.0		NW	14	6.3		0	0			0	0	Clear	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are: at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,393 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-160.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.89‡	759.2‡			50	10.0	93	NE	10	4.5			10		NE					Threatening	
Navy Yard, Portsmouth, N.H.	30.35‡	770.9‡			23	— 5.0	60	WNW	7	3.1			0			0	0			Clear	
Naval Hospital, Yokohama, Japan	29.90‡	759.4‡			49	9.4	79	SW			1	1ck		SW		0	0			Clear.	
Adams, Navy Yard, Mare I'd., Cal.	30.51‡	774.9‡			45	7.2	76	SE			0-1		0							Clear	
Alaska, S. 18° 27′ W. 70° 26′...*	29.89‡	759.2‡			70	21.1	80	ENE			2		10					Smooth		Hazy.	
Colorado, New York, N. Y.	29.64‡	752.8‡			10	—12.2		NNW			4		2		S	0	0			Hazy.	
Constitution, Aspinwall, Panama	29.92‡	760.0‡			80	26.7	82	ENE			2		2		NE					Clear	
Enterprise, N. 36° 47′, E. 21° 00′	30.32‡	770.1‡			59	15.0	70	ESE			1		7		S			Mod'ate		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.41‡	772.4‡			30	— 1.1	68	NNE	10	4.5			10		NNW	0	0			Overcast	
Independence, Mare I'd, Navy Yard, Cal.	30.40‡	772.1‡			41	5.0	65	Calm	0	0			0			0	0			Clear	
Kearsarge, Key West, Fla	30.00‡	762.0‡			74	23.3	86	SE			2-3		5		SE			Smooth		Fair	
Lackawana, N. 37° 30′, W. 123° 15′...†	30.40‡	772.1‡			48	8.9	92	NNW			2-3		0					Smooth	NW	Foggy	
Marion, Rio de Janeiro, Brazil	29.87‡	758.7‡			81	27.2	74	N			2		2		Calm	0	0			Fair	
Michigan, Erie, Pa.	30.37‡	771.4‡			17	— 8.3	67	SE			1		8		SE					Cloudy	
Monocacy, Shanghai, China	30.33‡	770.4‡			39	3.9	91	NW			2		10		Calm					Raining	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			55	12.8	74	NE	9	4.0			9	S	E	0	0			Cloudy	
Nipsic, N. 10° 44′, W. 63° 19′	29.94‡	760.5‡			74	23.3	86	ENE			3		8		ENE			Light	E	Rain & fog	
Onward, Callao, Peru †.	29.89‡	759.2‡			66	18.9	94	Calm			0		10					Long	W	Foggy	
Palos, Tientsin, China	30.39‡	771.9‡			33	0.6	79	ESE			2		2							Clear	
Passaic, Washington, D. C.	30.47‡	773.9‡			19	— 7.2	85	NE			1		5							Fair	
Pensacola, Callao, Peru	29.93‡	760.2‡			65	18.3	100	Calm			0							Smooth		Foggy	
Powhatan, N. 36° 57′, W. 74° 05′	30.38‡	771.6‡			30	— 1.1	78	NE			5		8			0	0	Long	N	Squally	
Quinnebang, Leghorn, Italy	30.39‡	771.9‡			63	17.2	47	E			2		5		SE					Hazy	
Ranger, N. 39° 48′, W. 136° 55′	30.67‡	779.0‡			51	10.6	93	ENE			3		5		E			Long	WNW	Foggy	
Richmond, Hong-Kong, China	30.14‡	765.5‡			66	18.9	95	ENE			1		10		NE	0.22	5.6	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	30.31‡	769.9‡			40	4.4	82	NW	6	2.7			0			0.11	2.8			Clear.	
Santee, Annapolis, Md	30.41‡	772.4‡			19	— 7.2		N			3		2		N;E	0	0			Clear.	
Shenandoah, Montevideo, Uruguay	29.97‡	761.2‡			67	19.4	69	SE			4		0					Smooth		Clear	
St. Louis, League Island, Pa.	30.43‡	772.9‡			14	—10.0		NNE	12	5.4			2			0	0			Clear	
Swatara, N. 37° 37′, W. 39° 13′	30.09‡	764.3‡			59	15.0	76	SSW			3		10		SSW			Long	SW	Hazy	
Tennessee, Norfolk, Va.	30.41‡	772.4‡			32	0.0	69	NE	13	5.8			7		Calm	0	0			Squally	
Trenton, N. 40° 16′, E. 4° 35′	30.32‡	770.1‡			57	12.9	63	ENE			4		10			9 h'rs	9 h'rs			Cloudy	
Tuscarora, N. 13° 23′, W. 89° 26′	29.94‡	760.5‡			75	23.9	68	Calm			0		0			0	0	Long	S;E	Clear.	
Wabash, Boston, Mass.	30.46‡	773.7‡			0	—17.8	100	NW	10	4.5			0			0	0			Clear	
Wachusett, Montevideo, Uruguay	30.49‡	774.4‡			67	19.4	64	SE			2		0					Smooth	SE	Fair	
Wyoming, Naples, Italy	30.33‡	770.4‡			57	13.9	58	SSE			0-1		5		S			Smooth	S	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft. or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian, N. 53° 51', W. 25° 30'....*	29.44‡	747.8‡	52	11.1	93	WSW			6		10			3 hr's	3 hr's		W;SW	Squally	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Philadelphia, Pa.			30	— 1.1	78	NW			7		4		NW	0	0			Fair	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 01', E. 164° 39'....†	30.10‡	764.5‡	60	15.6	82	WSW			6		8		WSW			Heavy	W	Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 46', W. 177° 34'...†	29.72‡	754.9	42	5.6		NW			3	ck		NW		0	0	Smooth		Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander... San Francisco, Cal....†	30.40‡	772.1‡	47	8.3		Calm			0		0			0	0			Clear	
S. S. Idaho, E. Alexander...																			
S. S. Orizaba																			
S. S. State of California, G. Debney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 27° 32′, W. 116° 20′...†	30.32‡	770.1‡	62	16.7	100	NNE	.....	.....	4	.....	1	.....	NE	0	0	Small	NNE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann, N. 39° 29′, W. 124° 07′...†	30.30‡	771.1‡	52	11.1	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Light	NW	Clear.	E. Polemann.
S. S. City of Panama, M. Connolly...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury Hong Kong, China.....†	29.96‡	761.0‡	65	18.3	89	NE	.....	.....	2	.....	10	.....	NE	0	0	Smooth	.....	Cloudy.....	E. LeSack.
S. S. Colima, R. R. Searle,...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths N. 45° 57′, W. 124° 15′...†	30.79‡	782.1‡	48	8.9	.....	Baffling	.....	.....	1	.....	5	.....	W	0	0	Smooth	NW	Clear	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Z alandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes, N. 44° 02′, W. 43° 57′ .....†	29.48‡	748.8‡	48	8.9	.....	W	5	2.2	.....	.....	8	.....	WSW.	Blank	Blank	High	swtoNW	Stormy.....	J. Farmer & W. Apotan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE, SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 10′, E. 52° 42′.....*	29.88‡	758.9‡	58	14.4	.....	WNW	.....	.....	4	.....	10	.....	WNW	.....	.....	Smooth	N	Foggy.....	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.†	30.17‡	766.3‡	74	23.3	.....	NE	.....	.....	5	.....	8	.....	NE	Blank	Blank	Rough	.....	D. clouds....	.....
Iron Cross, W. Randall, N. 50° 0′, W. 12°48′.....	30.25‡	768.3‡	49.8	9.9	78	W	.....	.....	2	.....	9	.....	W	0	0	Long	W	D. clouds....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

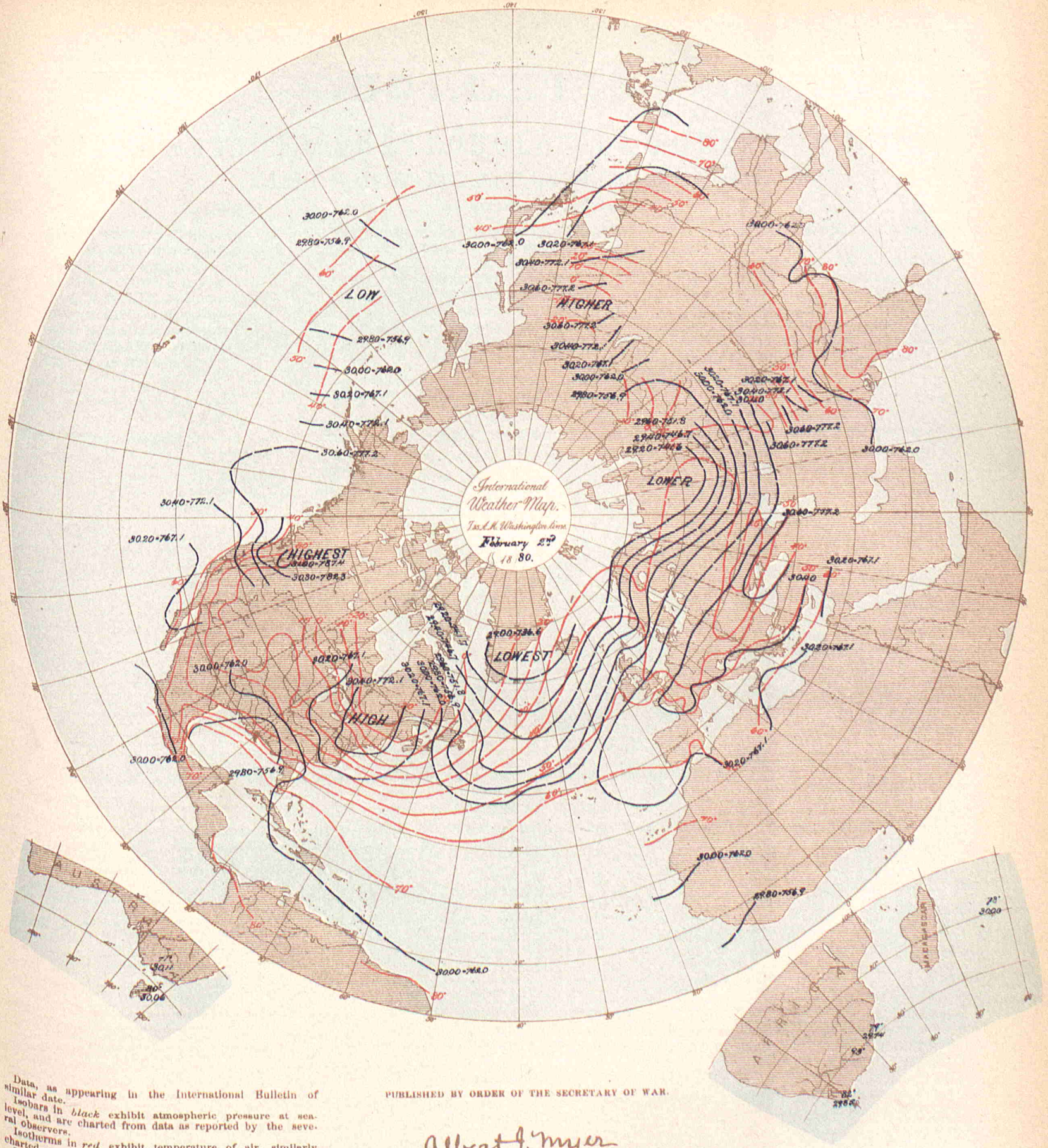
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f. p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 3, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco			30.16	766.1				NE			1		3			0	0	Pretty fair.	
Nemours			30.28	769.0	58.5	14.7	74	N			2		5			0	0	Cloudy.	Kesxuche.
Algiers			30.24	768.1	55.8	13.2	90	WNW			1		10			0.055	1.4	Covered	Tourillere.
La Calle			30.22	767.6	56.3	13.5	93	WNW			3		10			0.276	7.0	Covered	Foufrede.
Tunis																			Jacques.
Sfax																			Gau
Saida			30.23	767.7															Herbin.
Tebessa			30.24	768.1															Watrin.
Geriville			30.22	767.6	47.5	8.6	84	Calm			0		8			0.177	4.5	Very cloudy	Brugniaux.
Laghouat																			Bertrand.
Biskra			30.20	767.1	51.4	10.8	60	NE			3		10			Inap.	Inap.	Covered	Chanvaux.
			30.18	766.6	50.8	13.8	95	WNW			1		10			0	0	Covered	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	30.01	762.2	30.02	777.8	14.4	— 9.8	81	SE			2		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.76	755.9	30.58	776.6	32.7	0.4	59	SW	3.8	1.7			0			0	0		Dr. Wierzbicki.
Eperies	29.60	751.7	30.56	776.1	20.8	— 6.2	84						0			Inap.	Inap.		Julius Mikolik.
Gratz	29.26	743.3	30.60	777.2	31.3	0.4	73	S			2		0			0	0		Andreas Rospini.
Hermannstadt	29.04	737.7	30.62	777.7	18.1	— 7.7	100	NNW			0		0			0	0		Prof. A. Gottschling
Kremsmünster, Observatory	29.12	739.7	30.57	776.5	25.5	— 3.6	89	Calm			0		0			0	0		The Staff.
Lemberg	29.43	747.5	30.48	774.2	31.6	— 0.2	89	W			1		0			0	0		Dr. T. Stanecki.
Pola	30.29	769.3	30.41	772.3	44.6	7.0	74	W			1		3			0	0		I.R. Hydrographic Office.
Szathmar	30.09	764.3	30 60	777.3	19.0	— 7.2	78	S			3		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.29	769.4	30.60	777.2	21.0	— 5.6	100	Calm			0		10			0	0		Karl Stancel.
Trieste	30.30	769.7	30.41	772.3	55.4	13.0	22	ENE			1		0			0	0	Clear	P. Busin.
Vienna	29.83	757.6	30.57	776.5	28.4	— 2.0	80	Calm			0		0			0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	30.30	769.5	30.50	774.8	44.2	6.8	77	SW			1		0			0	0	Light fog	Royal Observatory.
Furnes	30.50	774.8	30.53	775.4	33.6	0.9	100	SW			2		10			0	0	Dense fog	M. E. de Cae.
Maeseyck	30.39	772.0	30.52	775.2	41.0	5.0	84	S			0		6?					Light rain?	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	48.4	9.1		SSW	13	5.8			4			0	0	Blue sky	W. Boswell.
Ardrossan	30.24	768.1	30.25	768.3	45	7.2		SSW			3		8					Foggy	G.Carrick.
Armagh, (Observatory)	30.02	762.5	30.26	768.6	47.4	8.6		SSW	9	4.0			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			30.33	770.4	50.1	10.1		SSE	9	4.6			10					Overcast	John Hartnup.
Bolton (Sharples)	29.80	756.9	30.32	770.1	44.9	7.2		S	2	0.9			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.94	760.5	30.34	770.6	48.8	9.3	79	W			2		9			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	76.5	24.7		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.34	770.6	30.44	773.2	46.8	8.2		S			1		10s					Overcast	H. Todd.
Cardington			30.37	771.4	46.0	7.8		SW			0–1		10					Overcast	John McLaren.
Chatham (School M. E.)	30.35	770.9	30.48	774.2	42.1	5.6		Calm			0		6					Misty	F. Magauran, Q. M. S'gt., R.E
Donaghadee	30.23	767.8	30.27	768.8	45	7.2		SW			3		10					Drizzling	J. Mac Gowan.
Dover	30.45	778.4	30.49	774.4	39	3.9		WSW			2		10					Foggy	J. Costello.
Falmouth (Observatory)	30.16	766 1	30.39	771.9	51.4	10.8		SSW			1		10					Foggy	The Staff.
Fort Napier, Natal	27.35	694.7	29.57	751.1	97.6	36.4		NE			1		8					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.84	757.9	86	30.0		NW			0		3k						
Galway (Queen's College)			30.17	766.3	49	9.4		S			2		9					Gloomy	M O'Donaghue.
Gibraltar, Mediterranean.§	30.15	765.8	30.21	767.3	57.5	14.2		E			4		7					D. clouds	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.04	763.0	30.25	768.3	46.1	7.8		SW			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.43	772.0	30.44	773.2	39	3.9		SSW			1		7					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.28	769.1	30.45	773.4	44.3	6.8		SSW			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	30.19	766.8	30.42	772.7	50	10.0		SSW			1		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.47	773.9	30.60	777.2	52	11.1		SE			2		10			0.08	2.0	Foggy	M. P. Moyle.
Holyhead	30.24	768.1	30.31	769.9	46	7.8		SSW			3		10					Overcast	John Tilston.
Jersey	30.19	766.8	30.50	774.4	44.6	7.0		SE			1		1					Misty	J. Fisher.
Kew (Observatory)	30.42	772.7	30.46	773.7	42.8	6.0		WSW	4	1.8			10					Misty	The Met'g'l Office.
Leicester (Museum)	30.13	765.3	30.39	771.9	45.0	7.2		SW			1		10					Misty	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.11	764.8	30.18	766.6	56	13.3		E			3		8kn					Showery	A. King.
Nairn	30.00	762.0	30.09	764.3	48	8.9		SW			1		2					⅜ clouded	W. D. Penny.
Nassau, Bahamas			30.02	762.5	73.0	22.8		S			1		4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.20	767.1	30.40	772.1	45.7	7.6		SSW			1		10			0	0	Foggy	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.84	757.9	30.38	771.6	44.5	6.9		S			2–3		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.26	767.1	30.45	773.4	42	5.6		SSE			1		10					Overcast	H. E. Bellamy.
Plymouth	30.32	770.1	30.39	771.9	47.8	8.8		SW			1		10					Rain & fog	John Merrifield.
*Roche's Point	30.23	767.8	30.32	770 1	49	9.4		WSW			3		10					Raining	Wm. Kennedy.
St. Ann's Head	30.19	766.8	30.36	771.1	44	6.7		SSW			1		7					Foggy	John C. Walker.
Sandwick Manse, Orkneys			30.06	763.5	48	8.9		WSW	27	12.1			1					Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.42	772.7	30.49	774.4	44.0	6.7		E			2		3			Blan	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	30.08	764.0	30.37	771.4	49.0	9.4		SW			2		6			0.01	0.3	D. clouds	W. F. Cooper.
Silloth Rectory	30.27	768.8	30.30	769.6	44.9	7.2	93	SW			2		10			0	0	Overcast	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.33	770.4	46.0	7.8		S	13	5.8			3					Misty	Rev. S. J. Perry.
Strathfield, Turgiss	30.22	767.6	30.45	773.4	42.3	5.7		SW			0–1		10					Gloomy	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.32	770.1	30.38	771.6	53	11.7		S			2		10					Gloomy	W. Newcombe.
Valencia (Observatory)	30.19	766.8	30.22	767.6	49.3	9.6		SSE	28	12.5			10					Drizzling	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.99	761.7	30.03	762.7	77.5	25.3	59	SW	9.6	4. 3		8	9cs			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.42	645.7			96	35.6		WNW				2c	5k						Robert Burnet.
Constable, Cape Colony	26.72	678.7			63	17.2		SW											Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			30.06	763.5	60.0	15.6	60	E			3		10k			0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary																		Cloudy	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.26	768.6	49.4	9.7		W			4		8k			0	0		C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.99	761.8	76.4	25.8	73	SSE	17.0	7.6		1	4		ESE	0.21	5.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.87	758.7	29.96	761.0	73.7	23.2	73	S	3	1.3			0			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			30.04	763.0	48	8.9		SSW			6		10			0.2	5.		
North Unst, Shetland Is			29.86	758.4				W			7	2	8	Calm		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9.	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 52° 58′ W. 53° 30′			29 43‡	747 5‡	48	8.9		N			5		10					Foggy	Capt. Thos. Young.
City of Cashmere, S. 34° 30′, W. 31° 20′			30.07‡	763 8‡	74	23.3		N			4	c	7cs		W			D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 32° 45′, W. 44° 35′			30.18	766.6	64	17.8		NNW			6		7			7	WNW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			29.81‡	757.2‡	70	21.1		SSW			7		10					Showery	Capt. O. D. Coxwell.
S. S. Richmond, N. 22° 50′, W. 76° 20′			30.08‡	764.0	77	25.0		SSE			5		4					Misty	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 12° 11′ E. 82° 32′			29.94‡	760.5‡	81.2	27.3		SE			5		7					Raining	Capt. W. P. Hughes.
S. S Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. G. M. Robson.
S. S Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding
Barque Fedalma																			Capt. H. L. Fox
H. M. S. Alert																			Capt.J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. L'w'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.24	666.5	29.96	761.0	60.8	16.0	81	SE	.....	.....	2	1d	2c	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish ples.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.35	770.9	30.40	772.1	36.0	2.2	98	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Rain and fog	
Farõe	30.39	771.8	30.41	772.3	37.0	2.8	98	W	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	
Godthaab (Greenland)	29.18	741.2	29.22	742.3	4.3	—15.4	100	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing	
Stykkisholm (Iceland)	29.18	741.2	29.22	742.3	29.8	— 1.2	92	SW	.....	.....	6	.....	5	.....	.....	.....	.....	Snowing	
Thorshavn (Farõe)	29.69	754.2	29.73	755.1	44.2	6.8	99	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Vestervig	30.24	768.0	30.35	770.8	38.3	3.5	100	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.97	761.3	30.52	775.3	36.5	2.5	93	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.41	772.4	30.53	775.4	41.7	5.4	91	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Englin'r School	30.24	768.0	30.50	774.7	45.1	7.3	34	S	.....	.....	1	c	.....	.....	.....	0	0	Light fog	Klein, Commandant.
Avignon, Normal School	30.36	770.8	30.43	772.8	58.2	11.8	45	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.93	760.2	30.51	775.0	41.0	5.0	69	S	.....	.....	1	2c	.....	.....	.....	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	30.25	768.4	30.51	775.7	33.4	0.8	87	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.58	751.3	30.52	775.1	36.5	2.5	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Carré, Director.
Bordeaux	30.17	766.4	30.37	771.4	52.7	11.5	46	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.63	752.5	30.54	775.7	39.2	4	70	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Marlot, Director.
Bourges, Normal School	29.91	759.8	30.47	773.8	43.9	6.6	82	N	.....	.....	1	2c	.....	.....	N	0	0	Slightly cl'dy	M. Genee, Director.
Brest, Naval Observatory	30.19	766.9	30.44	773.1	45.7	7.6	85	S	.....	.....	1	.....	9	.....	S	0	0	.....	Ch. de Rermaree, Dir.
Caen, Normal School	30.37	771.4	30.46	773.4	46.4	8	84	SSW	.....	.....	.....	.....	1	.....	SSW	0	0	.....	M. Bletrin, Director.
Carcassonne, N. School	29.90	759.5	30.32	770.2	55.8	13.2	48	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.20	767.0	30.54	775.7	32.7	0.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	Jadot, Director
Chartres, Normal School	29.91	759.7	30.48	774.3	53.4	11.9	70	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	29.04	737.6	30.43	773.0	47.5	8.6	63	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.63	752.6	30.56	776.2	29.7	— 1.3	95	E	.....	.....	1	.....	0	.....	.....	0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.33	745.0	30.47	774.0	58.5	14.7	25	SW	.....	.....	2	.....	2	.....	SW	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.69	754.2	30.50	774.8	36.3	2.4	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.21	767.2	30.43	772.8	53.2	11.8	86	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	30.20	767.1	30.53	775.4	40.3	4.6	67	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.51	749.6	30.46	773.7	35.2	1.8	96	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	30.38	771.6	30.49	774.4	43.2	6.2	82	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.85	758.2	30.50	774.6	35.6	2.0	73	E	.....	.....	1	.....	0	.....	.....	0	0	Heavy mist	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.10	764.6	30.37	771.5	59.2	15.1	52	WSW	.....	.....	0-1	.....	0	.....	.....	0	0	Misty	E. Stephan, Director.
Mirecourt, Normal School	29.42	747.3	30.54	775.8	28.4	— 2	87	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	26.06	686.5	30.37	771.5	37.4	3.0	59	ESE	.....	.....	3	.....	3	.....	E	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.34	770.6	30.37	771.5	56.8	13.8	60	SE	.....	.....	2	.....	1	S	SE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	30.19	766.9	30.40	772.2	57.4	14.1	57	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Perpignan	30.30	769.7	30.41	772.4	50.4	10.2	51	SE	8.8	1.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.68	576.1	.....	.....	34.9	1.6	.....	.....	.....	.....	.....	.....	1	.....	NE	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	29.30	744.3	30.41	772.3	45.3	7.4	48	NE	.....	.....	1	.....	0	.....	.....	3.6937	93.87	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.41	645.4	.....	.....	34.3	1.3	57	E	.....	.....	3	.....	0	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.40	772.2	30.43	773.0	53.2	11.8	71	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.41	772.5	30.50	774.7	33.8	1.0	85	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.43	772.9	30.46	773.6	49.8	9.9	70	SSE	.....	.....	2	.....	0	.....	.....	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.39	771.8	30.51	775.0	33.8	1.0	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.24	742.8	30.33	770.4	56.3	13.5	60	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.70	754.4	30.43	773.0	50.9	10.5	77	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	B. Baillaud, Dir.
Tours	30.26	768.7	30.46	773.7	47.1	8.4	70	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. de Tastes.
Versailles, Observatory	29.99	761.7	30.48	774.2	47.1	8.4	72	SE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.76	755.9	30.51	774.9	40.1	4.5	91	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.07	763.7	30.10	764.4	71.6	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.47	12.	.....	L'Abbé Marchést
Paris, Montsouris Obs'y	30.23	767.8	.....	.....	40.1	4.5	92	Calm	.....	.....	0	.....	0	.....	.....	0	0	Foggy	Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.25	768.4	30.28	769.1	41.0	5.0	84	E	12.1	5.4	.....	.....	10	.....	.....	0.004	0.10	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.67	753.6	30.55	775.9	22.3	— 5.4	71	NE			4		6s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.34	770.6	30.52	775.2	37.4	3.0	71	W			1		0			0	0		Prof. Dr. Arndt.
Breslau	30.00	761.9	30.54	775.6	37.0	2.8	60	WSW			2		0			0	0		Royal University Obs'y
Carlsruhe	30.07	763.8	30.53	775.5	32.0	0.0	70	E			0		0			0	0		Albert Senz.
Cassel	29.91	759.8	30.53	775.5	25.9	— 3.4	70	SE			0		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.25	768.4	30.64	778.2	30 6	— 0.8	60	E			2		2			0	0		Physical Society.
Friedrichshafen	29.03	737.4	30.58	776.7	25.2	— 3.8	95	S			1		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.43	772.8	30.50	774.6	32.0	0.0	96	W			2		10			0	0	Dense fog	Dr. Reinhold Kleeman.
Kiel	30.43	773.0	30.45	773.4	33.3	0.7	92	SW			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.28	769.1	30.37	771.3	29.7	— 1.3	76	SW			6		0			0	0		Prof. E. Luther.
Köslin			30.43	773.0	31.8	— 0.1		S			2		4			0	0		H. Müller.
Leipsic Observatory	30.12	765.0	30.56	776.3	34.0	1.1	66	SSW			1		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.30	769.6	30.53	775.5	36.3	2.4	72	Calm			0		0			0	0		Dr. Assmann.
Memel	30.25	768 3	30.30	769.5	35.4	1.9	98	W			3		10n					Rain & fog	Reinbrecht & Issermann
Munich (München)	28.63	727.2	30.52	775.3	25.7	— 3.5	90	N			1		0			0	0		Dr. C. Lang.
Neufahrwasser	30.35	771.0	30.37	771.4	41.2	5.1	71	SW			3		0			0	0		A. Lothes.
Neustadt (Palatinate)	29.99	761.8	30.53	775.4	32.5	0.3	94	Calm			0		0			0	0		Reallehrer Dicknether.
Posen	30.22	767.5	30.52	775 3	31.1	— 0.5	79	W			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	30.00	762.0	30.60	777.1	26.1	— 3.3	84	Calm			0		4			0	0		Imp. University Observatory.
Stuttgart	29.53	750.1	30.52	775.3	35.1	1.7	69	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.33	770.4	30.52	775.3	32.0	0.0	75	W			2		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.98	736.2	30.59	777.0	30.4	— 0.9	74	Calm	0	0						0	0		Reallehrer J. Hopfner.
Wustrow	30.45	773.5	30.48	774.1	34.5	1.4	100	WSW			3		10			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.04	763.1	30.44	773.2	51.1	10.6		NE			2.0		5					⅛ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.6	30.08	763.9	66.4	19.1	26	NW	7	3.1			10		NW	0	0	Overcast	
Deesa	29.51	749.6	29.99	761.8	77.2	25.1	30	WNW	6.1	2.7			6	W		0	0	Misty	
Bombay	29.89	759.1	29.93	760.1	75.2	24.0	81	NNW	23	10.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.8	29.86	758.4	85.1	29.5	22	W	7	3.1			0			0	0	Blue sky	
Belgaum	27.39	695.6	29.90	759.3	82.8	28.2	33	ESE	2	0.9			1	W		0	0	D. clouds	
Lahore	29.22	742.2	29.99	761.8	63.6	17.6	53	Calm	3.5	1.6			8			0.05	1.3	Overcast	
Roorkee	29.04	737.6	29.96	761.1	68.8	20.4	53	SE	2.0	0.9			6			0	0		
Agra	29.39	746.5	29.97	761.1	73.7	23.2	40	E	5.2	2.3						0	0		
Nagpur	28.90	733.9	29.94	760.6	80.8	27.1	28	NE	2.2	1.0						0	0	Blue sky	
Jubbulpore	28.56	725.4	29.94	760.5	74.6	23.7	43	Calm	1.5	0.7						0	0	Blue sky	
Lucknow	29.60	752.0	29.99	761.8	68.8	20.4	37	Calm	0.1	0.04			6	ENE		0	0	D. clouds	
Allahabad	29.66	753.3	29.98	761.6	66.8	19.3	60	Calm	0.6	0.3			2			0	0	D. clouds	
Patna	29.80	756.9	29.99	761.7	68.7	20.4	56	W	0.5	0.2			4		W	0	0	D. clouds	
Hazaribagh	27.91	708.9	29.97	761.2	67.8	19.9	39	W	3.3	1.5			0			0	0	Blue sky	
Cuttack	29.89	759.1	29.97	761.3	77.8	25.4	57	SSW	0.7	0.3			0			0	0	Blue sky	
Calcutta (Alipore)	29.94	760.5	29.96	761.1	70.1	21.2	61	WSW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.53	750.0	29.93	760.1	71.0	21.7	61	W	1.3	0.6			0			0	0	Blue sky	
Chittagong	29.88	758.8	29.97	761.2	71.2	21.8	78	WNW	3.2	1.4			0			0	0		
Sibsagar	29.62	752.4	29.97	761.2	66.6	19.2	72	ENE	1.2	0.5			8		W	0	0	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.00	762.1	30.48	772.9	51.8	11.0	26	SE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.89	759.2	30.44	773.1	41.7	5.4	75	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.4	30.45	773.3	43.7	6.5	51	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.50	749.3	30.44	773.2	41.9	5.5	74	ESE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.18	766.5	30.37	771.5	57.6	14.2	9	N	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.47	723.0	30.44	773.1	45.1	7.8	38	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.39	771.9	30.44	773.1	42.6	5.9	57	NW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.10	764.4	30.36	771.2	58.1	14.5	22	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.30	769.7	30.39	772.0	55.4	13.0	81	NE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.17	766.3	30.35	770.9	55.4	13.0	52	N	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.11	764.8	30.37	771.5	53.4	11.9	65	NNE	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.47	748.5	30.38	771.7	48.6	9.2	71	NW	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	30.04	763.0	30.24	768.1	52.7	11.5	86	Calm	.....	.....	0	.....	10	.....	.....	0.752	19.1	.....	Prof. A. Pacinotti.
Palermo	29.22	742.2	30.26	768.7	52.2	11.2	81	NE	1.8	0.8	.....	.....	10	.....	.....	0.421	10.7	.....	Prof. G. Ciacciatore.
Syracuse	30.22	767.5	30.26	768.6	54.5	12.5	89	ESE	13.7	6.1	.....	.....	10	ESE	.....	1.299	33.0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.80	757.0	30.34	770.5	53.6	12.0	57	NE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.18	766.6	30.20	767.1	38.0	3.3	73	NNE	8.9	4.0	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.25	768.3	40.2	4.6	64	ENE	4.3	1.9	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.80	759.2	29.96	761.0	39.6	4.2	57	NNE	7.7	3.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakuyama	30.08	764.0	30.14	765.5	40.4	4.7	82	N	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	24.98	634.6	30.20	767.1	39.2	4.0	51	SW	.....	.....	1	5cs	0	.....	.....	0	0	Fair.	Prof. L. Perez.
Leon	24.37	619.0	30.13	765.4	52.0	11.1	71	N	.....	.....	1	4c	0	SW	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.73	755.2	30.00	761.9	56.5	13.6	85	E	.....	.....	1	1c	3k	W	SW	0	0	Fair.	F. Quijano, C. E.
Mexico, Central Observatory	22.99	584.0	30.10	764.4	46.2	7.9	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	28.99	609.4	.....	.....	56.3	13.5	60	SE	.....	.....	8	1c	1k	E	NE	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.88	605.5	29.91	759.6	46.9	8.3	48	SW	.....	.....	1	8ks	0	SW	.....	0	0	Cloudy	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.39	594.1	30.34	770.7	41.0	5.0	52	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.07	611.3	30.28	767.9	41.5	5.3	48	SW	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.03	762.7	30.04	763.0	65.8	18.8	90	W	.....	.....	2	1	9	E	N	0.22	5.5	Raining	Prof. M. M. Chazaro.
Vera-Cruz	30.99	764.3	30.12	765.0	66.2	19.0	81	N	8.9	4.0	.....	.....	10m	.....	.....	0.08	2.0	Covered	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Colima, is 507.8 m., or 1,664.4 ft.; Guadalajara 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.53	775.4	30.53	775.4	37.6	3.1	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Groningen	30.44	773.1	30.49	774.5	36.9	2.7	.....	SW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.48	774.1	30.48	774.1	38.1	3.4	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.51	775.0	30.51	775.0	35.2	1.8	94	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Utrecht	30.46	773.7	30.61	774.9	33.3	0.7	92	SSW	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.10	764.6	30.16	766.0	43.9	6.6	91	S	37.8	16.9			10			0	0		
Brönö	29.22	742.1	29.26	743.1	46.4	8.0	75	SW	45	20			10			0.307	7.8	Raining	
Christiana	29.89	759.1	30.04	763.0	37.8	3.2	93	E	0	0			10			0	0	Foggy	
Tromsö	28.64	727.4	28.68	728.5	35.8	2.1	89	SW	9	4			10			0.827	21.0	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.32	770.2	55.8	13.2	55	E	8.8	1.7		2				0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.13	765.2	30.21	767.4	64.8	18.2	60	ESE	8.7	3.9		0				0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.98	761.6	30.35	770.9	53.2	11.8	62	NE	12.5	5.6		1				0	0		The Staff.
Ponta Delgada (Azores)	30.08	764.1	30.15	765.9	64.4	18.0	86	SSW	11.9	5.3		3				0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. [illegible] e Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa, San Jose de Bissao, Senegambia			D. clouds	A. de Souza Roza, 2nd L't.
Sâ da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	2	ENE	D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	ENE	Raining, 10 hr's rain-fall.	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.47	748.6	29.49	749.1	26.2	— 3.2	91	WSW	4	2		10							Capt. Sseliwerstow.
Astrakhan	30.30	771.8	30.30	769.7	20.3	— 6.5	79	WSW	11	5		0							Capt. Wisganow.
Barnaul	29.06	738.0	29.58	751.3	19.8	— 6.8	100	SW	45	20		10							Meteorological Obs.
Dorpat	29.82	757.3	30.07	763.7	34.3	1.3	90	WSW	7	3		10m						Light rain	Prof. Dr. Weihrauch.
Ekaterinburg	28.52	724.4	29.52	749.8	23.7	— 4.6	65	NW	7	3		7							Meteorological Obs.
Irkutsk																			
Kasan	29.45	748.0	29.73	755.1	31.6	— 0.2	93	WSW	7	3		10							Physical Cabinet.
Kertch	30.55	776.0	30.57	776.5	29.1	— 1.6	96	NW	4	2		10							Lagorio.
Kieff	29.68	753.8	30.35	771.0	26.2	— 3.2	70	WSW	2	1		0							Physical Cabinet.
Krotkowo*	29.35	745.5	29.84	758.0	28.8	— 1.8	73	NW	2	1		10							Cand. Fatjanow.
Lugan	30.07	763.6	30.28	769.1	28.0	— 2.2	63	W	34	15		0							Meteorological Obs.
Moscow	29.45	747.9	30.02	762.4	32.4	0.2	87	S	7.8	3.5		10s						Snowing	Meteorological Obs.
Nertchinsk	28.08	713.1	30.83	783.0	—29.9	—34.4	79	Calm	0	0		0							Meteorological Obs.
Nikolaiev	30.47	774.0	30.54	775.8	25.3	— 3.7	98	WSW	7	3		10n							Kurdakof.
Nukuss	30.10	764.4	30.34	770.6	34.3	1.3	85	SSW	9	4		4ks							
Orenberg																			
Pekin (China)	30.46	773.5	30.60	777.1	16.7	— 8.5	91	Calm	0	0		10n						Snowing	Physical Observatory.
St. Petersburg	29.91	759.7	29.93	760.1	34.2	1.2	96	WSW	7	3		10m							Central Physical Obs.
Tashkend	29.01	736.8	30.74	780.9	17.6	— 8.0	94	Calm	0	0		10							Teich, A. M.
Tiflis	28.99	736.3	30.48	774.3	34.7	1.5	55	Calm	0	0		0							Physical Observatory.
Vladivostock																			
Warsaw	30.03	762.7	30.48	774.1	29.1	— 1.6	80	WSW	11	5		0							Astronomical Obs.
Wilna	29.86	758.4	30.30	769.6	32.9	0.5	73	SW	2	1		7							Astronomical Obs.
Yeniseisk	28.96	735.6	29.26	743.2	18.7	— 7.4	88	E	13	6		10						Snowing	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.27	768.8	30.38	771.6	54.1	12.3	60	ENE	5.7	2.56		0				0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.35	770.9	30.41	772.3	58.6	14.8	61	SE	2.5	1.10		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.37	695.3			46.4	8.0	48	NE	3.1	1.39		0	1			0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.11	713.9	30.39	771.8	52.2	11.2	55	NE	2.2	1.00		0	0			0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.18	766.5	30.33	770.4	59.0	15.0	64	NW	2.3	1.03		3	5	WNW		0.005	0.13	Misty.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.40	746.7	30.30	769.6	59.7	15.4	52	SE	0	0		2	0			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.5	29.97	761.2	72.6	22.6	85	S	12.5	5.6		1c	0	W		0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.93	760.2	29.97	761.5	82.1	27.8	76	E	6.6	3.0						0	0	Fine.	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.19	766.9	30.29	769.5	60.6	15.9	60	E	14.8	6.6		0	5		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.03	762.7	30.12	765.0	76.3	24.6	65	SE	9.4	4.20		2s	0	SE		0	0	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.23	742.4	29.27	743.4	32.7	0.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Umea	29.47	748.4	29.52	749.7	34.2	1.2	100	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Hernosand	29.69	752.7	29.69	754.0	41.7	5.4	72	SW	.....	.....	2	.....	8	.....	.....	0.016	0.4	.....	
Stockholm	29.87	758.6	30.04	763.1	42.8	6.0	74	WSW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Wisby	30.04	763.1	30.10	764 6	37.4	3.0	90	W	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.84	758.0	29.99	760.2	38.8	3.8	88	SW	18.8	8.4	.....	.....	10	NW	WSW	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 58′, W. 79° 32′	.....	.....	29.96‡	761.0‡	74.1	23.4	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	29.06	738.2	30.57	776.5	28.0	— 2.2	100	N	.....	.....	3	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.82	732.0	30.56	776.3	24.4	— 4.2	90	NW	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +11.2 mm.; Thermometer, —4.7 Cent. Relative Humidity, +25 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.53	775.4	41.5	5.3	64	NE	17	7.5	.....	.....	5	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf																			
Valona	.....	.....	30.31	769.9	57.6	14.2	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.24	768.2	61.0	16.1	50	W	.....	.....	1	.....	1k	.....	SW	6	0	.....	Prof. C. V. A. van Dyck

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.29	769.4	30.30	769.6	—14	—25.6	.....	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.32	770.1	30.39	771.9	—12.0	—24.4	90	SW	2	0.9	.....	6c	1s	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.37	771.4	30.41	772.4	— 1.1	—18.4	94	Calm	0	0	.....	cs	2s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.94	760.5	— 0.2	—17.9	94	E	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.17	766.3	30.36	770.9	—12.5	—24.7	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	— 5.5	—20.8	81	SW	20	8.9	.....	5cs	2s	.....	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.32	770.1	30.39	771.9	—12.8	—24.9	100	Calm	0	0	.....	.....	Haze	.....	.....	Inap.	Inap.	Hazy	Prof. Harrison.
Fort Garry, Manitoba	29.36	745.7	30.30	769.6	— 6.2	—21.2	97	NE	1	0.4	.....	5k	5n	NE	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.48	723.4	29.66	753.4	16.0	— 8.9	100	NE	.....	.....	2	.....	10n	.....	.....	0.10	2.5	Snowing	James Grant.
Halifax, N. S	30.28	769.1	30.42	772.7	4.8	—15.1	87	E	2	0.9	.....	2cs	5ks	.....	.....	0	0	Fair	A. Allison.
Hamilton, Ontario	29.30	744.2	29.69	754.1	18.3	— 7.6	92	N	.....	.....	2	.....	10n	.....	.....	0.15	3.8	Snowing	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.48	748.8	29.84	757.9	8.1	—13.3	80	NE	13	5.8	.....	.....	10n	.....	.....	0.03	0.8	Light snow	S. Woods, M. A.
Little Glace Bay, N. S	30.37	771.4	30.41	772.4	8.5	—13.1	98	W	4	1.8	.....	4ck	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.86	758.4	30.09	764.3	— 4.0	—20.0	100	NE	15	6.7	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	30.09	764.3	30.13	765.3	—10.6	—23.7	91	NW	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy	J. R. Nelson.
Norwood, Ontario	29.02	737.1	29.78	756.4	7.4	—13.7	100	NE	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.12	739.6	29.88	758.9	6.8	—14.0	88	E	14	6.3	.....	.....	10n	.....	.....	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	28.96	735.6	29.77	756.1	8.3	—13.2	77	NE	.....	.....	5	.....	10n	.....	.....	0.03	0.8	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	28.89	733.8	29.63	752.6	17.1	— 8.3	100	NE	21	9.4	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing	H. Morgan.
Port Stanley, Ontario	28.93	734.8	29.62	752.3	18.0	— 7.8	88	NE	16	7.2	.....	.....	10n	.....	.....	0.30	7.6	Light snow	M. Payne.
Quebec, Quebec	29.85	758.2	30.22	767.6	— 6.5	—21.4	80	NE	.....	.....	1	.....	10n	.....	.....	0.37	9.4	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	29.50	749.3	30.01	762.2	2.1	—16.6	84	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	30.12	765.0	30.30	769.6	— 1	—18.3	100	NE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.08	737.3	29.79	756.7	14.0	—10.0	98	NE	13	5.8	.....	.....	10s	.....	.....	0	0	Overcast	Miss K. Stewart.
Stratford, Ontario	28.32	719.3	29.68	753.9	14.0	—10.0	93	NE	8	3.6	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	30.38	771.6	30.43	772.9	5.7	—14.6	81	W	1	0.4	.....	1c	0	W	.....	0	0	Snowing	T. C. Hill, C. E.
Toronto, Ontario	29.30	744.2	29.71	754.6	13.8	—10.1	84	NE	18	8.0	.....	.....	10n	.....	.....	0.040	1.02	Clear	Magnetic Observatory
Windsor, N. S	30.30	769.6	30.41	772.4	— 3.0	—19.4	100	SW	2	0.9	.....	0	2ks	.....	.....	0	0	Light snow	Prof. John E. Oram, M. A
Woodstock, Ontario	28.52	724.4	29.05	753.1	16.5	— 8.6	93	NE	19	8.5	.....	.....	10s	.....	.....	0.30	7.6	Fair	Professor Wolverton.
Yarmouth, N. S	30.25	768.3	30.32	770.1	10.3	—12.1	90	E	7	3.1	.....	5k	5n	.....	NE	0.03	0.8	Snowing	Lt. F. E. Wilmot, R. N.
Sub-Series.																		Overcast	
St. Johns, Newfoundland	30.08	764.0	30.36	771.1	10	—12.2	58	W	.....	.....	.....	0	5s	.....	.....	0.02	0.5	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.24	768.1	12.2	—11.0	.....	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.58	751.3	29.83	757.7	10	—12.2	100	NE	3	1.3	.....	.....	10n	.....	Calm	0.22	5.6	Heavy snow	
Alpena, Michigan	29.12	739.6	29.80	756.9	15	— 9.4	82	NW	4	1.8	.....	.....	10n	.....	Calm	0.05	1.3	Light snow..	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.61	726.7	29.79	756.7	32	0.0	89	NW	21	9.4	.....	5k	5s	NW	NW	1.55	39.4	Cloudy.....	
Atlantic City, New Jersey	29.24	742.7	29.25	742 9	43	6.1	100	E	48	21.5	.....	.....	10n	.....	E	1.61	40.9	Light rain...	
Augusta, Georgia	29.58	751.3	29.78	756.4	42	5.6	74	W	13	5.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Baltimore, Maryland	29.27	743.4	29.32	744.7	33	0.6	100	E	12	5.4	.....	.....	10n	.....	NE	0.23	5.8	Light rain...	
Barnegat, New Jersey	29.27	743.4	29.29	744.0	42	5.6	100	E	49	21.9	.....	.....	10n	.....	E	1.69	42.9	Light rain...	
Bismarck, Dakota	28.26	717.8	30.11	764.8	6	—14.4	88	NE	6	2.7	.....	0	5s	.....	Calm	0	0	Fair...	
Boerne, Texas	28.71	729.2	30.10	764.5	34	1.1	90	N	6	2.7	.....	5k	0	Calm	.....	0	0	Fair...	
Boise City, Idaho	27.56	700.0	30.52	775.2	20	— 6.7	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.78	756.4	29.94	760.5	27	— 2.8	100	SE	36	16.1	.....	.....	10n	.....	E	0.46	11.7	Heavy snow	
Brackettville, Texas	29.00	736.6	30.12	765.0	35	1.7	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.06	738.1	30.18	766.6	— 4	—20.0	100	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.08	764.0	30.13	765.3	42	5.6	91	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.89	759.2	30.67	779.0	17	— 8.3	83	NE	15	6.7	.....	.....	10n	.....	NE	0.12	3.0	Heavy snow	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.68	753.9	30.00	762.0	13	—10.6	81	SE	3	1.3	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Cairo, Illinois	29.53	750.0	29.93	760.2	32	0.0	79	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Campo, California	27.58	700.5	30.15	765.8	35	1.7	80	E	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.42	747.3	29.42	747.3	58	14.4	94	W	34	15.2	.....	.....	10n	.....	W	3.54	89.9	Light rain...	
Cape Henry, Virginia	30.30	769.6	30.32	770.1	55	12.8	87	SW	30	13.4	.....	.....	10s	.....	SW	1.92	48.8	Cloudy.....	
Cape Lookout, N. Carolina	29.47	748.5	29.48	748.8	67	13.9	81	W	32	14.3	.....	.....	10s	.....	N	2.91	73.9	Cloudy.....	
Cape May, New Jersey	29.21	741.9	29.24	742.7	47	8.3	100	E	24	10.7	.....	.....	Fog	.....	.....	1.30	33.0	Foggy	
Castroville, Texas	29.40	746.7	30.14	765.5	36	2.2	71	NW	7	3.1	.....	5ck	0	W	.....	0	0	Fair...	
Cedar Keys, Florida	29.89	759.2	29.91	759.7	56	13.3	69	NW	25	11.2	.....	0	2s	.....	NW	1.39	35.3	Fair...	
Charleston, South Carolina	29.63	752.6	29.69	754.1	50	10.0	65	NW	4	1.8	.....	0	5ks	.....	NW	1.39	35.3	Fair	
Charlotte, North Carolina	28.70	729.0	29.52	749.8	30	— 1.1	89	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.04	737.6	29.88	758.9	28	— 2.2	77	W	8	3.6	.....	.....	10ks	.....	W	0.75	19.1	Cloudy.....	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	11	—11.7	60	NW	16	7.2	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Chicago, Illinois	29.07	738.4	29.78	756.4	28	— 2.2	77	NW	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Cincinnati, Ohio	29.04	737.6	29.71	754 6	25	— 3.9	87	NW	7	3.1	.....	.....	10n	.....	Calm	0.33	8.4	Light snow..	
Cleveland, Ohio	28.79	731.3	29.53	750.0	23	— 5.0	86	NE	6	2.7	.....	.....	10n	.....	Calm	0.18	4.6	Light snow.	
Coleman City, Texas	28.43	722.1	30.23	767.8	22	— 5.6	72	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28.71	729.2	29.56	750.8	24	— 4.4	87	NW	9	4.0	.....	.....	10n	.....	.....	0.03	0.8	Light snow.	
Concho, Texas	28.29	718.6	30.08	764.0	28	— 2.2	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.71	754.6	30.20	767.1	36	2.2	61	N	8	3.6	.....	0	0	.....	.....	0.09	2.3	Clear, ...	
Davenport, Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Dayton, Washington T'y	.....	.....	.....	.....	29	— 1.7	78	E	.....	.....	1	10k	0	NE	.....	0	0	Cloudy.....	
Deadwood, Dakota	25.33	643.4	.....	.....	20	— 6.7	70	Calm	0	0	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.38	746.2	30.22	767.6	32	0.0	69	NW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Denver, Colorado	24.81	630.2	30.03	762.7	8	—13.3	55	S	7	3.1	.....	2c	0	NW	.....	0.05	1.3	Fair...	
Des Moines, Iowa	29.14	740.1	30.10	764.5	10	—12.2	79	N	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Detroit, Michigan	28.94	735.1	29.63	752.6	19	— 7.2	100	N	8	3.6	.....	.....	10n	.....	Calm	0.08	2.0	Heavy snow	
Dodge City, Kansas	27.56	700.0	30.06	763.5	14	—10.0	64	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.16	740.7	29.90	759.4	18	— 7.8	84	NW	10	4.5	.....	.....	10n	.....	Calm	0.04	1.0	Light snow..	
Duluth, Minnesota	29.36	745.7	30.12	765.0	0	—17.8	73	NW	1	0.4	.....	0	0	.....	.....	0.04	1.0	Clear.	
Eagle Pass, Texas	29.41	747.0	30.18	766.6	42	5.6	60	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	30.20	767.1	30.27	768.8	13	—10.6	81	NE	11	4.9	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow..	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.82	757.4	30.60	777.2	22	— 5.6	100	NE	12	5.4	.....	.....	10n	.....	Calm	0.64	16.3	Light snow..	
Escanaba, Michigan	29.19	741.4	29.88	758.9	15	— 9.4	65	N	10	4.5	.....	.....	10s	.....	NW	0.03	0.8	Cloudy.....	
Florence, Arizona	28.72	729.5	30.32	770.1	30	— 1.1	78	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	25	— 3.9	62	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.03	711.9	29.99	761.7	18	— 7.8	84	NW	6	2.7	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Fort Custer, Montana	27.07	687.6	.....	.....	26	— 3.3	88	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Davis, Texas	25.25	641.3	30.21	767.3	24	— 4.4	87	NE	10	4.5	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow..	
Fort Gibson, Indian Ter	29.59	751.6	30.16	766.1	29	— 1.7	67	NW	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	22	— 5.6	58	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.94	735 1	30.30	769.6	28	— 2.2	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.44	697.0	.....	.....	23	— 5.0	72	NW	2	0.9	.....	0	5s	.....	Calm	0.03	0.8	Fair...	
Fort McKavett, Texas	27.90	708.6	29.93	760.2	30	— 1.1	57	NE	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.98	736 1	30.16	766.1	28	— 2.2	66	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.23	717.0	.....	.....	7	-13.9	77	NE	8	3.6	.....	8ck	0	NE	.....	0	0	Cloudy.... ...	
Fort Verde, Arizona	.....	.....	.....	.....	21	— 6.1	57	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.38	720.8	30.02	762 6	34	1.1	61	N	6	2.7	.....	0	5ks	.....	Calm	0	0	Fair...	
Galveston, Texas	30.10	764.5	30.15	765.8	44	6.7	76	N	11	4.9	.....	5ck	0	W	.....	0	0	Fair...	
Graham, Texas	29.13	739.9	30.27	768.8	25	— 3.9	57	Calm	0	0	.....	0	0	.....	.....	.....	0	Clear.	
Grand Haven, Michigan	29.09	738.9	29.77	756.1	21	— 6.1	71	NE	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.26	743.2	30.24	768.1	68	3.3	72	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	28.89	733.8	29.70	754.4	27	— 2.8	53	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Indianola, Texas	30.18	766.6	30.21	767.3	42	5.6	66	N	16	7.2	.....	5c	0	W	.....	0	0	Fair...	
Jacksboro, Texas	28.92	734.6	30.12	765.0	30	— 1.1	78	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.80	756.9	29.83	757.7	58	14.4	68	SW	20	8.9	.....	2cs	0	W	.....	0.49	12.4	Clear.	
Keokuk, Iowa	29.27	743.4	29.92	760.0	18	— 7.8	84	NW	13	5.8	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow..	
Key West, Florida	29.94	760.5	29.97	761.2	74	23.3	86	SW	14	6.3	.....	2k	0	SW	.....	0	0	Fair	
Kittyhawk, North Carolina	29.39	746.5	29.42	747.3	55	12.8	81	SW	30	13.4	.....	0	5s	.....	SW	2.26	57.4	Fair...	
Knoxville, Tennessee	28.74	730.0	29.78	756.4	28	— 2.2	83	W	24	10.7	.....	.....	10ks	.....	W	0.67	17.0	Cloudy.....	
La Crosse, Wisconsin	29.18	741.1	29.97	761.2	12	—11.1	60	N	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	30	— 1.1	68	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Laredo, Texas	29.73	755 1	30.09	764.3	45	7.2	84	Calm	0	0	.....	2ck	0	W	.....	0	0	Clear, ...	
Leavenworth, Kansas	29.23	742.4	30.16	766.1	12	—11.1	61	NW	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	28	— 2.2	88	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Little Rock, Arkansas	29.68	753.9	30.05	763.3	36	2.2	71	W	3	1.3	.....	5c	0	W	.....	0	0	Fair...	
Los Angeles, California	29.94	760.5	30.30	769.6	39.0	3.9	55	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.16	740.7	29.74	755.4	27	— 2.8	58	W	12	5.4	.....	2ck	8n	W	Calm	0.23	5.8	Light snow..	
Lynchburg, Virginia	28.74	730.0	29.43	747.5	25	— 3.9	80	NW	8	3.6	.....	.....	10n	.....	Calm	0.47	11.9	Light snow..	
Madison, Wisconsin	28.80	731.5	29.83	757.7	19	— 7.2	85	E	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Marquette, Michigan	29.15	740.4	29.90	759.4	16	— 8.9	83	NW	14	6.3	.....	.....	10s	.....	NW	0.03	0.8	Cloudy.....	
Mason, Texas	28.52	724.4	30.39	771.9	33	0.6	70	NW	3	1.3	.....	5ck	0	SW	.....	0.14	3.6	Fair...	
Memphis, Tennessee	29.65	753.1	30.01	762.2	30	— 1.1	89	W	2	0.9	.....	0	0	.....	.....	0.27	6.9	Clear.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.04	737.6	29.81	757.2	19	— 7.2	85	NW	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Mobile, Alabama	30.02	762.5	30.06	763.5	34	1.1	70	N	9	4.0	.....	0	Haze	.....	.....	0	0	Clear	
Montgomery, Alabama	29.76	755.9	30.00	762.0	35	1.7	80	W	12	5.4	.....	.....	10ks	.....	W	1.33	33.8	Cloudy	
Morgantown, West Virginia	28.41	721.6	29.40	746.7	31	— 0.6	89	NE	3	1.3	.....	.....	10n	.....	Calm	0.51	13.0	Light snow.	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	11	—11.7	100	SE	36	16.1	.....	.....	10n	.....	SE	0.04	1.0	Light snow.	
Nashville, Tennessee	29.30	744.2	29.86	758.4	28	— 2.2	88	W	4	1.8	.....	.....	10ks	.....	NW	0.75	19.1	Cloudy	
New Haven, Connecticut	29.60	751.8	29.72	754.9	18	— 7.8	100	NE	23	10.3	.....	.....	10n	.....	NE	0.42	10.7	Heavy snow	
New London, Connecticut	29.68	753.9	29.74	755.4	27	— 2.8	94	NE	20	8.9	.....	.....	10n	.....	Calm	0.42	10.7	Heavy snow	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	44	6.7	52	NW	8	3.6	.....	2c	0	Calm	.....	0.97	24.6	Fair	
Newport, Rhode Island	29.74	755.4	29.79	756.7	30	— 1.1	100	NE	20	8.9	.....	.....	10n	.....	Calm	0.55	14.0	Heavy snow	
New River, North Carolina	.....	.....	.....	.....	52	11.1	79	W	.....	.....	7	.....	10s	.....	SW	.....	.....	Cloudy	
New York, New York	29.24	742.7	29.42	747.3	29	— 1.7	100	NE	48	21.5	.....	.....	10n	.....	NE	0.22	5.6	Heavy snow	
Norfolk, Virginia	30.29	769.4	30.35	770.9	51	10.6	93	SW	28	12.5	.....	0	8ks	.....	SW	1.40	35.6	Fair	
North Platte, Nebraska	27.14	689.3	29.93	760.2	10	—12.2	79	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.69	779.5	30.73	780.5	33.0	0.6	94	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.96	735.6	30.19	766.8	1	—17.2	71	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.43	747.5	29.66	753.4	18	— 7.8	84	E	11	4.9	.....	.....	10n	.....	Calm	0.18	4.6	Heavy snow	
Pembina, Dakota	29.26	743.2	30.20	767.1	— 7	—21.7	100	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.02	762.5	30.05	763.3	38	3.3	72	NW	9	4.0	.....	4k	2ks	NW	NW	1.06	26.9	Fair	
Philadelphia, Pennsylvania	29.28	743.7	29.33	745.0	30	— 1.1	78	NE	28	12.5	.....	.....	10s	.....	NE	0.89	9 9	Cloudy	
Phœnix, Arizona	29.10	739.1	31.08	788.1	35	1.7	61	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.34	440.4	29.55	750.6	—20	—28.9	27	NW	18	8.0	.....	2cs	0	NW	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ploche, Nevada	24.23	615.4	30.00	762.0	12	—11.1	61	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.65	727.7	29.48	748.8	22	— 5.6	86	NE	10	4.5	.....	.....	10n	.....	Calm	0.52	13.2	Light snow.	
Port Huron, Michigan	28.95	735.3	29.64	752.8	21	— 6.1	93	E	19	8.5	.....	.....	10n	.....	E	0.04	1.0	Light snow.	
Portland, Maine	30.06	763.5	30.12	765.0	13	—10.6	81	N	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
Portland, Oregon	30.68	779.3	30.76	781.3	35.5	1.9	80	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	56	13.3	100	SW	25	11.2	.....	.....	10s	.....	SW	2.98	75.7	Cloudy	
Prescott, Arizona	24.80	632.2	30.25	768.3	— 6	—21.1	81	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.90	759.4	29.92	760.0	70	21.1	70	W	14	6.3	.....	.....	10s	.....	W	0.23	5.8	Cloudy	
Red Bluff, California	30.12	765.0	30.50	774.7	43.5	6.4	22	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.99	761.7	30.22	767.6	38	3.3	81	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Rochester, New York	29.04	737.6	29.70	754.4	12	—11.1	100	E	14	6.3	.....	.....	10n	.....	Calm	0.42	10.7	Heavy snow	
Roseburg, Oregon	30.15	765.8	30.77	781.5	32	0.0	85	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.34	770.6	30.42	772.7	38	3.3	45	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.30	744.2	29.90	759.4	29	— 1.7	89	W	11	4.9	.....	.....	10n	.....	NW	Inap.	Inap.	Light rain	
St. Paul, Minnesota	29.15	740.4	30.04	763.0	13	—10.6	81	NW	11	4.9	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.98	659.9	30.31	769.9	12	—11.1	42	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy	
San Antonio, Texas	29.53	750.0	30.14	765.5	39	3.9	64	N	5	2.2	.....	10k	0	N	.....	0	0	Cloudy	
San Diego, California	30.18	766.6	30.26	768.6	44	6.7	52	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	28.89	733.8	29.58	751.3	24	— 4.4	100	N	35	15.6	.....	.....	10n	.....	N	0.06	1.5	Light snow.	
Sandy Hook, New Jersey	29.27	743.4	29.30	744.2	33	0.6	100	E	84	37.6	.....	.....	10n	.....	Calm	0.09	2.3	Heavy rain.	
San Francisco, California	30.34	770.6	30.41	772.4	49	9.4	40	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	0	—12.8	78	NE	2	0.9	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Savannah, Georgia	29.68	753.9	29.78	756.4	49	9.4	64	W	24	10.7	.....	2k	0	W	.....	1.06	26.9	Fair	
Shreveport, Louisiana	29.88	758.9	30.11	764.8	33	0.6	79	NW	3	1.3	.....	0	0	.....	.....	0.73	18.5	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.56	750.8	29.59	751.6	51	10.6	70	W	22	9.8	.....	10k	0	SW	.....	2.35	59.7	Cloudy	
Socorro, New Mexico	25.54	648.7	29.61	752.1	23	— 5.0	47	NE	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Springfield, Illinois	29.18	741.1	29.88	758.9	27.5	— 2.5	88	NW	15	6.7	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow.	
Springfield, Massachusetts	29.74	755.4	29.88	758.9	12	—11.1	80	N	10	4.5	.....	.....	10n	.....	.....	0.21	5.3	Heavy snow	
Stockton, Texas	27.15	689.6	30.15	765.8	27	— 2.8	19	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.89	759.2	29.94	760.5	31	— 0.6	100	SE	30	13.4	.....	.....	10n	.....	SE	0.41	10.4	Heavy snow	
Toledo, Ohio	28.94	735.1	29.65	753.1	20	— 6.7	85	NW	10	4.5	.....	.....	10n	.....	.....	0.08	2.0	Light snow.	
Tucson, Arizona	27.09	703.3	30.24	768.1	31	— 0.6	68	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.34	770.6	30.90	784.8	19.5	— 6.9	93	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.32	744.7	30.17	766.3	38	3.3	63	NE	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Vicksburg, Mississippi	29.82	757.4	30.09	764.3	32	0.0	89	N	6	2.7	.....	0	0	.....	.....	1.07	27.2	Clear	
Virginia City, Montana	24.47	621.5	29.95	760.7	14	—10.0	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	30.00	762.0	30.39	771.9	33	0.6	89	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.22	742.2	29.33	745.0	32	0.0	100	N	9	4.0	.....	.....	10n;fg	.....	Calm	0.53	13.5	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.50	749.3	29.57	751.1	49	9.4	71	W	21	9.4	.....	.....	10ks	.....	SW	1.46	37.1	Cloudy	
Winnemucca, Nevada	26.08	673.1	30.44	773.2	10	—12.2	79	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.75	755.6	29.79	756.7	32	0.0	89	E	32	14.3	.....	.....	10n	.....	SE	.....	.....	Heavy snow	
Yankton, Dakota	28.85	732.8	30.32	770 1	— 2	—18.9	67	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.20	767.1	30.36	771.1	44	6.7	23	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.88	758.9	29.93	760.2	76	24.4	76	S	1.2	0.5	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	74	23.3	82	Calm	0	0	.....	0	8cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	75	23.9	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	77	25.0	86	NE	.....	.....	3	5k	7ks	E	.....	0.010	0.25	¾ Cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.42	747.3	29.97	761.2	79	26.1	85	Calm	.....	.....	0	.....	10ks	.....	.....	0.06	1.5	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.04	763.0	30.07	763.8	73	22.8	76	Calm	0	0	.....	Haze	0	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.01	762.2	30.06	763.5	—18.0	—27.8	68	NW	7	3.1	.....	2c	0	NW	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?) Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1.916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549(?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1.670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.87‡	758.7‡			39	3.9	73	NE	10	4.5			2		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H.	29.66‡	753.4‡			25	— 3.9	74	NE	18	8.0			5							Fair	
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡			42	5.6	66	NE			2		0			0	0			Clear	
Adams, Navy Yard, Mare I'd., Cal.	30.54‡	775.7‡			43	6.1	83	NE			0–1		0							Clear.	
Alaska, Arica, Peru	29.93‡	760.2‡			70	21.1	80	W			1		2		E					D. clouds	
Colorado, New York, N. Y.	29.50‡	749.3‡			27	— 2.8		ENE	10	4.5			1?		E					Heavy snow?	
Constitution, As, inwall, Panama	29.95‡	760.7‡			77	25.0	82	NE			1		4							Clear	
Enterprise. N. 37° 30′, E. 17° 40′	30.34‡	770.6‡			58	14.4	82	SSE			2		9		SSE			Mod'ate		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.38‡	746.2‡			51	10.6	86	SW	43.2	19.3			8		SW	1.6	41.			Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.38‡	771.6‡			43	6.1	83	Calm	0	0			0			0	0			Clear	
Kearsarge, N. 23° 28′, W. 82° 32′	29.99‡	761.7‡			77	25.0	82	SSW			3		2		SW			Mod'ate	S	Fair	
Lackawana, San Francisco, Cal.	30.39‡	771.9‡			53	11.7	61	N			1–2		0							Clear	
Marion, Rio de Janeiro, Brazil	29.91‡	759.7‡			82	27.8	75	NNW			1		8		Calm	0	0			Cloudy	
Michigan, Erie, Pa.	29.50‡	749.3‡			24	— 4.4	61	E			3		10		E					Snowing	
Monocacy, Shanghai, China	30.27‡	768.8‡			41	5.0	82	ENE			2		10		Calm					Cloudy	
New Hampshire, Port Royal, S. C.	29.05‡	737.9‡			50	10.0	64	NW	33	14.8			9?		NW	1.10	27.9			Clear?	
Nipsic, Carupano, Venezuela, S A.	30.02‡	762.5‡			79	26.1	66	ENE			2		2		ENE			Long Mod'ate	NNE	D. clouds	
Onward, Callao, Peru †.	29.91‡	759.7‡			70.5	21.4	85	Calm			0		8					Long	W	Fair	
Palos, Tientsin, China	30.56‡	774.7‡			27	— 2.8	88	S			2		2							Clear.	
Passaic, Washington, D. C.	30.37‡	771.4‡			34	1.1	79	NE			2		10							Cloudy	
Pensacola, Callao, Peru	29.92‡	760.0‡			72	22.2	85	Calm			0		2					Smooth		D. clouds	
Powhatan, Hampton Roads, Va.	29.40‡	746.7‡			48	8.9	93	SW			6		2		SW	Heavy	Heavy	Rough	SW	Squally	
Quinnebaug, Leghorn, Italy	30.36‡	771.1‡			63	17.2	52	E			1		0							Clear	
Ranger, N. 39° 30′, W. 134° 50′	30.64‡	778.2‡			53	11.7	86	ENE			3		0					Long	ENE	Clear	
Richmond, Hong-Kong, China	30.07‡	763.8‡			62	16.7	100	E			4		10		E	0.12	3.0	Smooth		Drizzling	
Rio Bravo, Brownsville, Texas	30.37‡	771.4‡			43	6.1	76	NNW	2	0.9			5		NW	0	0			Fair	
Santee, Annapolis, Md.	29.34‡	745.2‡			34	1.1	100	NE			5		10		NW	0.01	0.3			Foggy	
Shenandoah, Montevideo, Uruguay	29.98‡	761.5‡			70	21.1	75	N			4		2		N			Mod'ate	N	Fair	
St. Louis, League Island, Pa.	29.46‡	748.3‡			40	4.4	100	NE	24	10.7			10			0	0			Cloudy	
Swatara, N. 37° 20′, W. 34° 59′	29.96‡	761.0‡			63	17.2	89	SSW			5		10		S			Mod'ate	SSW	Cloudy	
Tennessee, Norfolk, Va.	29.35‡	745.5‡			49	9.4	93	SSW					7		SW	0.14	3.6			Squally	
Trenton, Toulon, France	30.41‡	772.4‡			65	18.3	35	W			2		2			3 h'rs.	3 h'rs.			Clear	
Tuscarora, N. 18° 20′, W. 89° 01′	29.94‡	760.5‡			78	25.6	73	SE			1		2		Calm	0	0	Smooth		Clear	
Wabash, Boston, Mass.	29.94‡	760.5‡			28	— 2.2	77	E	28	12.5			10							Snow-storm	
Wachusett, Montevideo, Uruguay	30.43‡	772.9‡			68	20.0	79	N			4		2		N			Smooth	SE	Fair	
Wyoming, Naples, Italy	30.34‡	770.6‡			58	14.4	58	NNW			0–1		2		N			Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian, N. 53° 04′, W. 35° 20′	29.58‡	751.3‡	38	3.3	66	NW			6		10			2 hr's	2 hr's			W;SW	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr
S. S. Indiana, R. W. Sargent Philadelphia, Pa			18	— 7.8	68	SE			8		9		SE	Blank	Blank			Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Risius.
S. S. Ohio, G. Meyer.																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 04′, E. 160° 24′	30.02‡	762.5‡	64	17.8	80	WSW			6		10		WSW			Mod'ate	WSW	Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 56′, W. 172° 30′	29.97‡	761.2	40	4.4		ENE			4		ks		SE	Slight	Slight	Mod'ate	SE	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal. †	30.44‡	773.2‡	48	8.9		E			1		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 25° 24', W. 113° 23'....†	30.08‡	764.0‡	63	17.2	94	N	.....	.....	5	.....	1	.....	NNE	0	0	Mod'ate	NNE	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Polemann.
S. S. City of Panama, M. Connolly...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury Hong Kong, China.....†	29 99‡	761.7‡	65	18.3	89	ENE	.....	.....	6	.....	10	.....	NE	0	0	Smooth	.....	Clear?.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths Esquimault Harbor, Vancouver I'd.†	30.73‡	780.5‡	45	7.2	.....	Calm	.....	.....	0	.....	10?	.....	Calm	0	0	.....	.....	Cloudy.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Z alandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 42° 42', W. 48° 26' ....†	30.33‡	770.4‡	34	1.1	.....	WNW	6	2.7	.....	.....	5	.....	WNW	Blank	Blank	High	WNW	Cloudy.....	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE, SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Adale Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 16', E. 56° 15'.....*	30.08‡	764.0‡	58	14.4	.....	Calm	.....	.....	0	.....	5	.....	SW	.....	.....	Short	SW	Fair.....	B. F. Woodbury.
Brigantine George, W. H. Caamplin, Arroyo, Porto Rico, W. I.†	30.16.	766 1‡	74	23.3	.....	ENE	.....	.....	5	.....	8	.....	NE	Blank	Blank	Rough	.....	Cloudy.....	.....
Iron Cross, W. Randall, N. 59° 00', W. 16°08'..	30 07‡	763.8‡	53.0	12.0	100	S	.....	.....	5	.....	10	.....	W	Slight	Slight	Long	W	Foggy.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON FEBRUARY 4, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.13	765.3				NE			1		1			0	0	Very fair	
Nemours			30.25	768.3	59.5	15.3	80	N			2		0			0	0	Clear	Kesxuche.
Algiers			30.21	767.2	57.2	14.0	86	NNE			2		10			0.465	11.8	Covered	Tourillere.
La Calle			30.20	767.0	56.7	13.7	66	E			2		10			0.138	3.5	Covered	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.14	765.5															Herbin.
Tebessa			30.20	767.0															Watrin.
Geriville			30.17	766 4	45.3	6.3	88	Calm			0		10			0.453	11.5	Covered	Bruguiaux.
Laghouat																			Bertrand.
Biskra			30.19	766.8	48.9	9.4	52	NNW			1		8			Inap.	Inap.	Very cloudy	Chanvaux.
			30.12	765.0	60.4	15.8	76	E			1		2			Inap.	Inap.	Fair	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,860? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	30.02	762.4	30.03	777.9	15.3	— 9.3	91					0				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.78	756.4	30.00	777.1	33.8	1.0	81	SW	0	0		8				0	0		Dr. Wierzbicki.
Eperies	29.61	752.0	30.56	776.2	24.8	— 4.0	77					0				Inap.	Inap.		Julius Mikolik.
Gratz	29.26	743.1	30.59	777.0	31.6	— 0.2	60	S			1	0				0	0		Andreas Rospini.
Hermannstadt	29.06	738.0	30.63	778.0	18.3	— 7.6	86	ESE			2	0				0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	29.07	738.3	30.53	775.4	20.8	— 6.2	100	Calm			0	10				0	0		The Staff.
Lemberg	29.44	747.8	30.49	774.5	32.5	0.3	90	W			1	3				0	0		Dr. T. Staneckt.
Pola	30.30	769.5	30.41	772.5	46.0	7.8	67	WNW			1	0				0	0		I.R. Hydrographic Office.
Szathmar	30.16	766.0	30.69	779.4	6.8	-14 0	66	W			2	0				0	0		Pet. Pancsics, S. J.
Szegedin	30.30	769.7	30.61	777 5	21.6	— 5.8	100	Calm			0	Fog				0	0	Foggy	Karl Stancel.
Trieste	30.34	770.5	30.44	773.1	50.2	10.1	21	ENE			3	0				0	0	Clear	P. Busin.
Vienna	29.82	757.4	30.57	776.5	22.1	— 5.5	100	Calm			0	10				0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	30.21	767.4	30.42	772.7	43.5	6.4	71	SW			1	0				0	0		Royal Observatory.
Furnes	30.41	772.4	30.43	773.0	46.0	7.8	64	SSE			2	0				0	0	Light fog	M. E. de Cae.
Maeseyck	30.34	770.6	30.47	773.8	36.3	2.4	60	S			0	0?						Light rain	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.94	760.5	30.04	763.0	49.6	9.8		S	14	6.3			5			0	0	Blue sky	W. Boswell.
Ardrossan	30.08	764.0	30.10	764.5	48	8.9		SSW			4		3					D. clouds	G.Carrick.
Armagh, (Observatory)	29.88	758.9	30.12	765.0	52.0	11.1		S	22	9.8			6					Squally	S. Call.
Bidston (Liverpool Obs)			30.27	768.8	50.6	10.3		S	7	3.1			10					Overcast	John Hartnup.
Bolton (Sharples)	29.72	754.9	30.24	768.1	46.2	7.9		S	3	1.3			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.25	768.3	51.7	10.9	72	W			2		6			0	0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.02	762.5	78.5	25.8		NE			3		2					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.26	768.6	30.36	771.1	53.0	11.7		S			1		0					Blue sky	H. Todd.
Cardington			30.34	770.6	49.0	9.4		SW			0-1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.27	768.8	30.41	772.4	38.1	3.4		W			0		0					Misty	F. Magauran, Q. M. S'gt., R. E
Donaghadee	30.08	764.0	30.12	765.0	51	10.6		SW			4		3					D. clouds	J. Mac Gowan.
Dover	30.38	771.6	30.41	772.4	40	4.4		WSW			2		0					Misty	J. Costello.
Falmouth (Observatory)	30.11	764.8	30.34	770.6	48.2	9.0		SSE			1		2					D. clouds	The Staff.
Fort Napier, Natal	27.76	702.6	29.87	758.7	66.8	19.3		SE			1		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.57	751 1	29.80	756.9	87	30.6		E			1		3k						
Galway (Queen's College)			30.00	762.0	51	10.6		SSW			3		8					D. clouds	M O'Donaghue.
Gibraltar, Mediterranean.§	30.11	764.8	30.16	766.1	58.0	14.4		E			6		5					D. clouds	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.88	758.9	30.08	764.0	51.0	10.6		S			6		6k					D. clouds	D. G. Maclean.
Great Yarmouth	30.37	771.4	30.38	771 6	41	5.0		SSW			2		2					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.21	767.3	30.39	771.9	40.0	4.4		S			1		0					Blue sky	The Staff, for G.B.Airy.
Guernsey	30.15	765.8	30.37	771.4	49	9.4		SE			1		0					Blue sky	Dr. S.E Hoskins, F.R.S.
Helston	30.45	773.4	30.57	776.5	52	11.1		S			4	2c				0.12	3.0	Fine	M. P. Moyle.
Holyhead	30.18	766.6	30.25	768.3	48	8.9		SSW			4		2					Blue sky	John Tilston.
Jersey	30.11	764.8	30.41	772.4	45.0	7.2		E			1		0					Misty	J. Fisher.
Kew (Observatory)	30.36	771.1	30.40	772.1	45.6	7.6		SSW	3	1.3			Fog					Foggy	The Met'g'l Office.
Leicester (Museum)	30.07	763.8	30.34	770.6	43.0	6.1		SW			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.05	763.3	30.13	765.3	56	13.3		E			3		10m					Raining	A. King.
Nairn	29.84	757.9	29.94	760.5	54	12.2		WSW			1		2					¼ clouded	W. D. Penny.
Nassau, Bahamas			30.05	763.3	73.0	22.8		S			1		10			Blank	Blank	Overcast	C. S. Duncombe.
Nottingham (Observatory)	30.14	765.5	30.33	770.4	48.0	8.9		SSW			3		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.79	756.7	30.32	770.1	45.8	7.7		S			3		10					Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	30.14	765.5	30.39	771.9	44	6.7		SW			2		5					D. clouds	H. E. Bellamy.
Plymouth	30.27	768.8	30.34	770.6	50.0	10.0		S			1		1					D. clouds	John Merrifield.
*Roche's Point	30.13	765.3	30.22	767.6	50	10.0		SW			4		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	30.13	765.3	30.30	769.6	47	8 3		SSE			2		6					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.89	759.2	50.9	10.5		S	17	7.6			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.38	771.6	30.44	773.2	40.0	4.4		ENE			1		8					Showery	Serg't W. H. Lyne.
Sheffield	30.02	762.5	30.30	769.6	53.9	12.2		SW			3		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.18	766.6	30.21	767.3	49.5	9.7	84	SW			5		7			0.252	6.40	D. clouds	Rev. F. Redford, A. M.
Stonyhurst (Observatory)			30.25	768.3	49.6	9.8		SW	9	4.0			9					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.18	766.6	30.41	772.4	41.6	5.3		S			2		3					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.26	768.6	30.31	769.9	52	11.1		SE			4		4					D. clouds	W. Newcombe.
Valencia Observatory)	30.07	763.8	30.10	764.5	51.3	10.7		SSE	34	15.2			10					Gloomy	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	72	22.2	88	SSW	20.2	9.0		0	2k;cs			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.56	649.2			84	28.9		S				0	0						Robert Burnet.
Constable, Cape Colony	26.78	680.2			77	25.0		E											Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.92	760.0	71.0	21.7	83	S			2		10k			0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.10	764.5	53.0	11.7		SW			3		0			0.05	1.3	Fine	C. Meldrum.
Mauritius (Observatory)	29.71	754.6	29.90	759.5.	75.9	24.4	83	ENE	5.6	2.5			10		E	0.49	12.4	Drizzling	R. L. J. Ellery.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	67.6	19.8	84	SW	10	4.5			4			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.81	757.2	48	8.9		SSW			7		10			0	0		
North Unst, Shetland Is			29.83	757.7				SW			6	6	10	Calm		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 51° 40′, W. 51° 42′			29.37‡	746.0‡	49	9.4		NW			6		10					Foggy	Capt. Thos. Young.
City of Cashmere, S. 33° 22′, W. 32° 45′			30.00‡	762.0‡	73.8	23.2		N			6		10			High	NNW	Showery	Capt. W. M. Grieve.
Bqte Fylde, N. 32° 25′, W. 47° 25′			30.40‡	772.1	62	16.7		E			2		8			6	WNW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			30.04	763.0‡	70	21.1		SSE			3		1					Blue sky	Capt. O. D. Coxwell
S. S. Richmond, Flamingo Cay, W. I.			30.11	764.8	77	25.0		SE			3		8					Misty	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 14° 23′, E. 79° 22′			29.92	760.0‡	80.8	27.1		SE			5		5					Squally	Capt. W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. O. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding
Barque Fedalma																			Capt. H. L. Fox
H. M. S. Alert																			Capt. J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	68.6	14.8	78	NE			2	10				0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.37	771.3	30.41	772.5	35.1	1.7	98	SW			2		10					Foggy	
Farõe	30.36	771.2	30.38	771.7	32.2	0.1	100	SSW			4		10					Foggy	
Godthaab (Greenland)	29.60	751.7	29.64	752.8	1.2	—17.1	100	NNW			4		8						
Stykkisholm (Iceland)	29.20	741.7	29.24	742.8	28.6	— 1.9	92	SW			4		8					Snowing	
Thorshavn (Farõe)	29.58	751.4	29.62	752.3	43.9	6.6	81	W			5		10						
Vestervig	30.19	766.9	30.30	769.7	37.0	2.8	100	SSW			4		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.87	758.6	30.42	772.6	41.9	5.5	56	S			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.33	770.4	30.45	773.3	38.8	3.8	67	E			1		0			0	0	Clear.	Vaillant, Director.
Arras, Engin'r School	30.16	766.0	30.43	772.9	40.6	4.8	69	S			2		5			0	0	Cloudy	Klein, Commandant.
Avignon, Normal School	30.28	769.2	30.36	771.2	51.8	11	41	N			1		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.84	757.8	30.43	772.8	37.6	3.1	55	S			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.15	765.8	30.44	773.1	31.8	— 0.1		E			1		0			0	0	Clear.	Frère Eugene Marie.
Besançon, Normal School	29.53	750.0	30.47	774.0	33.8	1		NE			1		0			0	0	Clear.	A. Carré, Director.
Bordeaux	30.12	765.0	30.32	770.0	55.9	13.3	54	SSW			1		0			0	0	Clear.	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.57	751.1	30.48	774.3	32.4	0.2	85	N			1		0			0	0	Clear.	Marlot, Director.
Bourges, Normal School	29.71	754.5	30.40	772.1	41.0	5	84	NE			1		1		NE	0	0	Clear.	M. Gence, Director.
Brest, Naval Observatory	30.12	765.0	30.36	771.2	57.6	14.2	82	Calm			0		2		S	0	0		Ch. de Kermarec, Dir
Caen, Normal School	30.28	769.0	30.39	772.0	44.2	6.8	85	NW					1		NW	0	0		M. Bietrin, Director.
Carcassonne, N. School	29.87	758.6	30.28	769.2	58.6	14.8	33	SE			2		1		SE	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch	30.08	764.1	30.42	772.7	40.6	4.8	74	Calm			0		5			0	0	Clear	Jadot, Director
Chartres, Normal School	29.83	757.7	30.41	772.4	48.7	9.3	86	NE			1		0			0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.98	736.2	30.36	771.2	52.2	11.2	50	NNE			1		0			0	0	Misty	Alluard, Director.
Commercy, Normal School	29.55	750.5	30.48	774.1	25.7	— 3.5		E			1		0			0	0	Light fog	Dr. Coullet, Director.
Commune de Gréasque*	29.24	742.6	30.38	771.6	60.6	15.9	25	N			1		5		NW	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.68	753.8	30.49	774.4	36.0	2.2		E			1	2c				0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.17	766.3	30.39	772.0	46.8	8.2	78	E			1		0			0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	30.10	764.5	30.42	772.7	39.6	4.2	90	E			1		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.49	749.0	30.43	773.0	32.5	0.3	89	NW			1		0			0	0	Clear.	A. Baudry, Director
Lorient, Naval Observatory	30.30	769.5	30.41	772.3	48.9	9.4	76	S			1		0			0	0	Clear.	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.80	756.8	30.46	773.6	28.6	— 1.9	100	NE			1					0	0	Foggy	Ch. André, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	30.05	763.2	30.32	770.1	59.7	15.4	54	SW			1–2		6		E	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.30	744.3	30.42	772.7	28.2	— 2.1	92	N			1		0			0	0	Clear.	Barbier, Director.
Mont-Louis	25.02	635.6	30.34	770.6	38.3	3.5	56	N			2		1		W	0	0		M. Cave, for Dr. Fines.
Nice	30.32	770.1	30.35	770.9	57.9	14.4	61	SE			3		5	S	SE	0	0	Cloudy	Capt. Boissière, Director.
Nismes, Normal School	30.14	765.5	30.34	770.7	59.2	15.1	64	N			1		1		N	0	0	Clear	M. Boyer, Director.
Perpignan	30.24	768.0	30.34	770.7	52.2	11.2	44	NE	3.8	1.7			2	WNW		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.64	575.4			35.4	1.9							1		NE	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.30	744.3	30.40	772.2	46.0	7.8	51	S			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summ't) Obs	25.40	645.1			41.4	5.2	48	W			1		0			0	0		Alluard, Director.
Rochefort, Naval Obs'y	30.34	770.7	30.37	771.5	50.2	10.1	75	E			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.33	770.4	30.42	772.6	30.6	— 0.8	96	SE			1		10			0	0	Covered	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.34	770.6	30.37	771.4	49.1	9.5	65	SSE			2		0			0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.24	768.2	30.41	772.4	41.4	5.2	76	W			1					0	0		E. Renou, Director.
Tarbes, Normal School	29.17	740.9	30.24	768.2	57.2	14	40	W			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.65	753.1	30.38	771.7	50.2	10.1	84	ENE			1		0			0	0	Clear	B. Baillaud, Dir.
Tours	30.19	766.8	30.33	771.6	41.0	5.0	81	E			1		0			0	0	Clear	M. de Tastes.
Versailles, Observatory	29.89	759.3	30.39	771.8	42.4	5.8	58	SE			1		0			0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.67	753.6	30.43	773.0	29.3	— 1.5	90	NE			1					0	0	Foggy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.07	763.6	30.09	764 3	78.4	23										0.47	12.		L'Abbé Marchésl
Paris, Montsouris Obs'y	30.13	765.2			38.5	3.6	98	WNW			1		0			0	0	Foggy	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.34	770.7	30.37	771.3	37.4	3.0	93	NE	8.3	3.7			10m			0.445	11.3	Raining	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft.. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.815 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.57	751.1	30.45	773.3	22.6	— 5.2	78	N			2		8s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	30.33	770.4	30.51	775.0	37.6	3.1	73	SE			1		4			0	0		Prof. Dr. Arndt.
Breslau	30.02	762.5	30.56	776.2	34.7	1.5	66	SW			1		2			0	0		Royal University Obs'y
Carlsruhe	30.00	761.9	30.46	773.6	28.9	— 1.7	77	S			0		0			0	0		Albert Senz.
Cassel	29.87	758.8	30.49	774.5	16.9	— 8.4	93	SE			0		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.19	766.7	30.57	776.5	32.9	0.5	60	E			0		1			0	0		Physical Society.
Friedrichshafen	28.98	736.0	30.52	775.3	24.1	— 4.4	88	WSW			2		6			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.42	772.7	30.49	774.5	29.1	— 1.6	100	SE			2		10			0	0	Dense fog	Dr. Reinhold Kleeman.
Kiel	30.44	773 1	30.45	773.5	34.5	1.4	100	SW			2		10			0.252	0.64		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.35	770.9	30.44	773.1	36.7	2.6	98	W			6		10			0.004	0.1	Foggy	Prof. E. Luther.
Köslin			30.48	774.2	35.6	2.0		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	30.08	764.0	30.53	775.4	31.3	— 0.4	74	NW			1		10			0	0	Foggy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.27	768.8	30.50	774.7	32.4	0.2	84	SSE			1		1cs			0	0		Dr. Assmann.
Memel	30.31	769.8	30.35	771.0	36.1	2.3	100	W			3		10n					Rain & fog	Reinbrecht & Issermann
Munich (München)	28.56	725.3	30.45	773.3	18.5	— 7.5	96	N			2		0			0	0		Dr. C. Lang.
Neufahrwasser	30.45	773.4	30.47	773.8	38.7	3.7	92	W			1		10			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.91	759.7	30.45	773.3	34.1	1.1	96	Calm			0		0			0	0		Reallehrer Dicknether.
Posen	30.25	768.3	30.56	776.1	33.4	0.8	89	W			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.91	759.8	30.51	775.0	22.3	— 5.4	98	Calm			0		5			0	0		Imp. University Observatory.
Stuttgart	29.47	748.6	30.47	773.9	33.3	0.7	83	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.39	771.9	30.58	776.8	34.2	1.2	100	W			2		10			0	0	Foggy	Dr. Cunerth.
Weissenburg (Bavaria)	28.91	734.4	30.52	775.1	30.7	— 0.7	71		0.2	0.1						0	0		Reallehrer J. Hopfner.
Wustrow	30.46	773.6	30.48	774.2	32.7	0.4	100	S			3		10			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.00	761.9	30.39	772.0	50.4	10.2		NE			2.0		0					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.4	30.03	762.5	67.1	19.5	35	WNW	15	6.7			5	NW				Hailing	
Deesa	29.48	748.8	29.96	761.0	73.7	23.3	13	NW	9.4	4.2			1	W		0	0	Misty	
Bombay	29.88	758.9	29.92	759.8	75.7	24.3	65	NNW	18	8.0			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.6	29.86	758.4	84.0	28.9	30	WNW	6	2.7			1		WSW	0	0	D. clouds	
Belgaum	27.36	695.0	29.90	759.3	78.1	25.6	54	W	7	3.1			1	W		0	0	D. clouds	
Lahore	29.12	739.5	29.89	759.3	58.6	14.8	33	Calm	1.7	0.8			3			0	0	Blue sky	
Roorkee	28.96	735.5	29.88	759.1	64.0	17.8	78	E	1.5	0.7			10			0.02	0.5		
Agra	29.28	743.6	29.86	758.3	70.7	21.5	42	E	5.8	2.6			10		E	0	0		
Nagpur	28.84	732.6	29.89	759.1	81.2	27.3	27		2.8	1.2			1			0	0	Blue sky	
Jubbulpore	28.49	723.6	29.86	758.4	79.0	26.1	37	NW	2.1	0.9			9		N	0	0	Overcast	
Lucknow	29.51	749.5	29.90	759.4	67.3	19.6	69	NNE	0.5	0.2			6	ENE		0	0	D. clouds	
Allahabad	29.57	751.0	29.89	759.1	69.7	20.9	66	Calm	0.6	0.3			1	W		0	0	D. clouds	
Patna	29.74	755.5	29.93	760.3	69.9	21.1	49	Calm	0.4	0.2			8			0	0	D. clouds	
Hazaribagh	27.88	708.1	29.93	760.3	67.8	19.9	52	NW	4.1	1.8			4			0	0	D. clouds	
Cuttack	29.85	758.2	29.93	760.3	77.8	25.4	59	Calm	1.5	0.7			0			0	0	Blue sky	
Jalcutta (Alipore)	29.89	759.3	29.92	759.8	72.6	22.6	65	S	5.0	2.2			0			0	0	Blue sky	
Goalpara	29.51	749.5	29.91	759.7	70.9	21.6	55	W	0.4	0.2			0			0	0	Blue sky	
Chittagong	29.85	758.1	29.94	760.4	72.0	22.2	78	WNW	3.5	1.6			0			0	0		
Sibsagar	29.62	752.5	29.97	761.3	64.9	18.3	86	NW	1.4	0.6			9		W	0.13	3.3	Overcast	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	30.03	762.8	30.46	773.6	49.1	9.5	25	E	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.90	759.5	30.45	773.3	40.1	4.5	56	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.33	770.4	30.45	773.3	45.0	7.2	40	NNE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.50	749.3	30.44	773.2	43.7	6.6	51	N	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.17	766.2	30.36	771.2	56.3	13.5	23	S	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.46	722.8	30.48	772.9	42.3	5.7	52	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.38	771.6	30.43	772.9	40.6	4.8	71	NNW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	30.10	764.5	30.37	771 3	54.5	12.5	19	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.28	769.0	30.37	771.3	53.1	11.7	38	E	9.4	4.2	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.15	765.7	30.33	770.3	55.4	13.0	43	N	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.31	743.4	30.35	771.0	53.2	11.8	61	N	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.45	748.0	30.36	771.2	47.7	8.7	69	NW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.99	761.8	30.19	766.9	57.0	13.9	78	ESE	.....	.....	2	.....	10	SE	.....	1.000	25.4	.....	Prof. A. Pacinotti.
Palermo	29.99	761.8	30.25	768.3	54.3	12.4	89	ESE	0	0	.....	.....	10	.....	.....	0.059	1.5	.....	Prof. G. Ciacciatore.
Syracuse	30.19	766.9	30.24	768.6	55.6	13.1	83	ESE	18.6	8.3	.....	.....	8	ESE	.....	0.236	6.0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.77	756.2	30.30	769.7	55.6	13.1	88	NE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.31	769.9	30.33	770.4	37.7	3.2	82	NNE	3.2	1.4	.....	ck	8s	.....	.....	0	0	Cloudy.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.08	764.0	30 29	769.3	41.6	5.3	72	NE	8.8	3.9	.....	.....	7s	.....	.....	0	0	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.10	764.5	30.17	766.3	36.9	2.7	51	NNW	12.1	5.4	.....	.....	10s	.....	.....	0	0	Cloudy.	The Staff.
Wakayama	30.23	767.8	30.28	769.1	38.2	3.4	71	N	11.0	4.9	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear.	R. Banda, C. E.
Guadalajara	25.00	635.0	30.20	767.0	41.0	5.0	53	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.40	619.7	30.17	766.4	51.6	10.9	76	N	.....	.....	1	1c	0	.....	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.75	755.6	30.01	762.3	54.9	12.7	90	NW	.....	.....	2	1s	0	.....	.....	0	0	Clear.	F. Quijano, C. E.
Mexico, Central Observatory	23.00	584.1	30.13	765.3	44.6	7 0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Fine.	The Staff
Morelia	24.03	610.4	.....	.....	56.8	13.8	62	SE	.....	.....	4	1k	0	W	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.89	606.9	29.93	760.2	45.1	7.3	54	SW	.....	.....	1	1c	8s	SW	.....	0	0	Fair.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.38	593.9	30.30	769.6	42.4	5.8	54	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine.	Prof. P. Spina.
San Luis Potosi	24.08	611.6	30.17	766.4	46.4	8.0	39	NW	.....	.....	1	4	0	W	.....	0	0	Fair.	G. Barroeta, M. D.
Tlacotalpam	30.03	762.8	30.04	763.1	65.8	18.5	94	W	.....	.....	2	.....	10	.....	W	0.39	9.8	Raining	Prof. M. M. Chazaro.
Vera-Cruz	30.04	763.1	30.07	763.8	67.1	19.5	81	Calm	0	0	.....	.....	10n	.....	.....	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.6 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.44	773.2	30.44	773.2	35.2	1.8	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.30	771.0	30.45	773.8	39.6	4.2	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.42	772.6	30.42	772.6	41.4	5.2	.....	SSE	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.43	772.8	30.43	772.8	36.5	2.5	62	W	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Utrecht	30.40	772.1	30.45	773.3	39.4	4.1	72	SSE	.....	.....	0	.....	0	.....	.....	0	0	Clear.	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Bergen	30.04	762.9	30.09	764.3	43.2	6.2	88	S	35.3	15.8	.....	.....	10	.....	.....	0.122	3.1	Raining	
Brönö	29.59	751.5	29.63	752.5	42.8	6.0	91	SW	29	13	.....	.....	10	.....	.....	0.213	5.4	Raining	
Christiana	29.91	759.6	30.06	763.5	37.2	2.9	98	NW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.20	741.6	29.24	742.7	32.9	0.5	90	SW	7	3	.....	.....	10	.....	.....	0.508	12.9	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.32	744.6	30.35	771.0	45.3	7.4	70	ENE	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.01	762.2	30.10	764.4	64.6	18.1	69	E	3.4	1.5	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.95	760.7	30.32	770.1	51.3	10.7	55	NNE	11.2	5.0	.....	.....	3	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.95	760.6	30.02	762.4	63.0	17.2	84	S	10.5	4.7	.....	.....	3	.....	.....	0.071	1.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa N. 11° 50′, W. 16° 43′	.....	.....	.....	.....	80.6	27.0	.....	ENE	.....	.....	2	.....	3	.....	ENE	2	.....	D. clouds	A. de Souza Roza, 2nd L't
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.82	757.4	81.3	27.4	.....	W	.....	.....	3	.....	4	.....	WNW	.....	.....	D. clouds, 3 minutes rain-fall.	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.04	763.0	67.5	19.7	.....	E	.....	.....	2	.....	10	.....	E	1	.....	Raining, 6 hr's rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.19	741.3	29.21	741.8	29.1	— 1.6	92	WNW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.24	768.2	30.16	766.1	17.1	— 8.1	97	SW	11	5	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	29.88	746.3	29.91	759.7	21.0	— 6.1	100	SW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.83	757.7	30.08	764.1	36.1	2.3	93	WSW	11	5	.....	.....	8kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.30	718.7	29.30	744.2	20.3	— 6.5	82	S	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	28.87	733.3	29.14	740.2	33.1	0.6	95	W	13	6	.....	.....	10	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Kertch	30.45	773.3	30.47	773.8	29.1	— 1.6	94	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.57	751.0	30.23	767.9	35.1	1.7	85	NW	13	6	.....	4c;ck	.....	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	28.88	733.5	29.75	755.7	30.6	— 0.8	84	SSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.93	760.1	30.14	765.5	29.7	— 1.3	71	WSW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.18	741.1	29.74	755.3	38.5	3.6	73	NNE	13	6	.....	.....	2ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.88	708.1	30.59	777.0	—25.8	—32.1	79	Calm	0	0	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.36	771.2	30.43	773.0	23.0	— 5.0	71	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.02	762.4	30.26	768.6	32.0	0.0	96	WSW	11	5	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.48	774.1	30.62	777.7	14.7	— 9.6	94	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Observatory.
St. Petersburg	29.86	758.4	29.87	758.8	37.9	3.3	80	WNW	18	8	.....	c	6cs	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.82	732.1	30.54	775.6	21.9	— 5.6	90	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.90	734.1	30.39	772.0	36.1	2.3	59	NW	9	4	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	30.07	763.7	30.52	776.1	31.5	— 0.3	100	W	9	4	.....	.....	10	.....	.....	.....	.....	Foggy	Astronomical Obs.
Wilna	29.90	759.4	30.34	770.7	34.5	1.4	100	W	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	29.44	747.7	29.75	756.7	5.9	—14.5	68	SW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.21	767.3	30.32	770.0	56.7	13.7	52	E	2.7	1.19	.....	.....	1cs	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.27	768.8	30.32	770.2	62.8	17.1	46	SE	1.9	0.86	.....	2	0	E	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.34	694.4	.....	.....	46.4	8.0	61	NE	1.6	0.72	.....	0	1	.....	.....	0	0	Almost clear	Domingo Martiny Perez.
Madrid, Royal Observatory	28.06	712.8	30.34	770.6	51.8	11.0	49	N	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.12	765.1	30.28	769.0	60.6	15.9	65	NW	1.8	0.81	.....	3	4	NW	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.5	30.29	769.4	59.0	15.0	51	SW	0	0	.....	3	0	.....	.....	0	0	Light clouds	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.01	762.2	30.08	763.9	70.6	21.4	84	N	11.6	5.2	.....	.....	10n	.....	NNE	0.134	3.4	Raining	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.6	29.96	761.0	80.7	27.1	70	E	0.7	0.3	.....	.....	.....	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.13	765.4	30.24	768.0	59.0	15.0	65	SE	13.8	6.2	.....	0	9	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.00	762.1	30.10	764.4	72.3	22.4	88	SE	9.6	4.30	.....	5kn	4kn	SE	SE	0.049	1.25	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.60	751.9	29.64	752.9	34.5	1.4	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.76	755.8	29.81	757.1	30.9	4.4	77	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.79	756.6	29.84	757.9	46.8	8.2	62	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Stockholm	29.89	759.2	30.07	763.7	42.4	5.8	82	WNW	.....	.....	6	.....	9	.....	.....	0	0	.....	
Wisby	30.07	763.8	30.13	765.3	39.9	4.4	90	W	.....	.....	4	.....	8	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.03	760.2	30.02	762.4	40.3	4.6	91	SW	13.0	5.8	.....	.....	10	.....	SW	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 58′, W. 79° 32′	.....	.....	29.95‡	760.7‡	77.7	25.4	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction be tween the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.99	736.3	30.49	774.5	29.1	— 1.6	95	NNW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.76	730.4	30.50	774.8	23.7	— 4.6	90	W	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +9.3 mm.; Thermometer, —4.1 Cent. Relative Humidity, +20 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between u pper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.50	774.6	39.7	4.3	79	NNE	8	3.5	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.30	769.7	56.3	13.5	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.23	767.7	57.0	13.9	59	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.42	747.3	29.43	747.5	12	—11.1	.....	N	6	2.7	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing	Hon. J. Ferguson.
Chatham, N. B	29.22	742.2	29.29	744.0	10.5	—11.9	100	NE	13	5.8	.....	.....	10n	.....	.....	1.22	31.0	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	29.02	737.1	29.06	738.1	27.0	— 2.8	91	SW	12	5.4	.....	.....	10n	.....	.....	0.60	15.2	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.41	747.0	29.62	752.3	11.5	—11.4	100	W	.....	.....	1	.....	10n	.....	.....	0.50	12.7	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.22	742.2	29.39	746.5	10.0	—12.2	.....	W	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	14.3	— 9.8	91	NE	50	22.4	.....	.....	10n	.....	.....	0.50	12.7	Heavy snow	J. McWilliams.
Fredericton, N. B	29.32	744.7	29.40	746.7	11.1	—11.6	84	NW	9	4.0	.....	.....	10n	.....	.....	0.91	23.1	Snow-drift..	Prof. Harrison.
Fort Garry, Manitoba	29.04	737.6	29.08	761.5	— 8.0	—22.2	100	Calm	0	0	.....	.....	10n	.....	.....	0.060	1.52	Cloudy	James Stewart.
Granton, Ontario	28.65	727.7	29.82	757.4	16.0	— 8.9	100	SW	.....	.....	1	.....	10n	.....	.....	0.30	7.6	Snowing	James Grant.
Halifax, N. S	29.17	740.9	29.30	744.2	27.0	— 2.8	87	SW	20	8.9	.....	.....	10ks	.....	.....	0.692	17.58	Cloudy	A. Allison.
Hamilton, Ontario	29.46	748.3	29.85	758.2	18.3	— 7.6	92	NW	.....	.....	1	10cs	0	NW	.....	0.18	4.6	Snowing	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.41	747.0	29.78	756.4	10.5	—11.9	90	W	8	3.6	.....	.....	10ks	.....	.....	0.42	10.7	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.08	738.6	29.12	739.6	24.2	— 4.3	96	SE	20	8.9	.....	.....	10n	.....	.....	0.80	20.3	Overcast	C. H. Rigby.
Montreal, Quebec	29.44	747.8	29.65	753.1	11.3	—11.5	94	SW	15	6.7	.....	.....	10ns	.....	.....	0.75	19.1	Light snow.	C. H. McLeod, C. E
Moose Factory, Ontario	29.76	755.9	29.80	756.9	—27.7	—33.2	100	W	.....	.....	1	0	2s	.....	.....	0	0	Clear	J. R. Nreson.
Norwood, Ontario	28.99	736.3	29.74	755.4	10.3	—12.1	100	W	4	1.8	.....	7k	0	W	.....	Inap.	Inap.	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.05	737.9	29.82	757.4	— 1.5	—18.6	84	Calm	0	0	.....	0	2ks	.....	.....	0.15	3.8	Fair	Rev. R. Mosley.
Peterboro, Ontario	28.97	735.8	29.78	756.4	9.6	—12.4	56	Calm	.....	.....	0	0	5ks	.....	.....	0.50	12.7	Fine	J. F. Jeffers, M. A.
Port Dover, Ontario	29.10	739.1	29.84	757.9	18.1	— 7.7	84	W	0	2.7	.....	10ck	0	W	.....	0.50	12.7	Fair	H. Morgan.
Port Stanley, Ontario	29.16	740.7	29.85	758.2	17.2	— 8.2	93	W	16	7.2	.....	5ck	0	W	.....	0.40	10.2	Fair	M. Payne.
Quebec, Quebec	29.23	742.4	29.67	751.1	11.5	—11.4	100	N	.....	.....	3	.....	10n	.....	.....	0.70	17.8	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.21	741.9	29.70	754.4	11.1	—11.6	78	W	4	1.8	.....	.....	10n	.....	.....	0.25	6.3	Light snow.	W. H. McIntyre.
St. John, N. B	29.22	742.2	29.40	746.7	12	—11.1	100	W	14	6.3	.....	.....	10s	.....	.....	0.49	12.4	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.05	737.9	29.82	757.4	14.0	—10.0	91	SE	4	1.8	.....	.....	10s	.....	.....	0.40	10.2	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.45	722.6	29.81	757.2	15.0	— 9.4	95	NW	2	0.9	.....	2cs	6s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A
Sydney, C. B	29.11	739.4	29.15	740.4	31.8	— 0.1	83	SW	24	10.7	.....	.....	10n	.....	.....	0.86	21.8	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.43	747.5	29.84	757.9	11.3	—11.5	86	NW	7	3.1	.....	5ck	2s	W	.....	0.500	12.70	Fair	Magnetic Observatory
Windsor, N. S	29.18	741.1	29.27	743.4	23.0	— 5.0	86	SW	26	11.6	.....	.....	10n	.....	.....	0.50	12.7	Snowing	Prof. John E. Oram, M.A
Woodstock, Ontario	28.70	729.0	29.84	757.9	17.3	— 8.2	93	Calm	0	0	.....	3c	1s	W	.....	0.60	15.2	Fine	Professor Wolverton.
Yarmouth, N. S	29.43	747.5	29.50	749.3	23.5	— 4.7	85	W	47	21.0	.....	.....	10s	.....	.....	0.76	19.3	Overcast	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.35	745.5	29.62	752.2	16	— 8.9	100	SE	.....	.....	.....	.....	10n	.....	.....	0.22	5.6	Stormy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.29	744.0	29.1	— 1.6	.....	SE	.....	.....	4	.....	.....	.....	.....	0	0	.....	The Commandant.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.55	750.6	29.79	756.7	13	—10.6	62	NE	2	0.9		8k	0	W		1.05	26.7	Fair	
Alpena, Michigan	29.16	740.7	29.86	758.4	10	—12.2	79	W	10	4.5			8s		W	0.02	0.5	Cloudy	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.95	735.3	30.16	766.1	31	— 0.6	79	W	7	3.1		0	Sm'e		Calm	0	0	Clear	
Atlantic City, New Jersey	29.93	760.2	29.94	760.5	30	— 1.1	78	W	8	3.6		0	0			0	0	Clear	
Augusta, Georgia	30.00	762.0	30.21	767.3	35	1.7	61	Calm	0	0		0	0			0	0	Clear	
Baltimore, Maryland	29.93	760.2	29.98	761.5	26	— 3.3	75	W	5	2.2		0	0			0.10	2.5	Clear	
Barnegat, New Jersey	29.89	759.2	29.92	760.0	27	— 2.8	76	W	14	6.3		0	0			0.19	4.8	Clear	
Bismarck, Dakota	28.07	713.0	29.92	760.0	9	—12.8	100	NW	8	3.6		0	0			0.02	0.5	Clear	
Boerne, Texas	28.73	729.7	30.12	765.0	35	1.7	70	N	2	0.9			10s		W	0	0	Cloudy	
Boise City, Idaho	27.44	697.0	30.40	772.1	32	0.0	69	NW	4	1.8		0	5s		W	0	0	Fair	
Boston, Massachusetts	29.54	750.3	29.70	754.4	20	— 6.7	70	SW	15	6.7		0	0			0.59	15.0	Clear	
Brackettville, Texas	29.03	737.3	30.14	765.5	37	2.8	81	Calm	0	0		0	8ks		Calm	0	0	Fair	
Breckenridge, Minnesota	28.80	731.5	29.90	759.4	1	—17.2	100	S	8	3.6			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.11	764.8	30.16	766.1	49	9.4	85	NW	4	1.8			10s		Calm	0	0	Cloudy	
Buffalo, New York	29.08	738.6	29.82	757.4	18	— 7.8	75	W	11	4.9			10n		Calm	1.24	31.5	Light snow	
Burkes, Arizona																			
Burlington, Vermont	29.40	746.7	29.71	754.6	15	— 9.4	82	W	3	1.3			10s		NW	0.23	5.8	Cloudy	
Cairo, Illinois	29.84	757.9	30.26	768.6	23	— 5.0	73	W	8	3.6		0	0			0.01	0.3	Clear	
Campo, California	27.64	702.0	30.21	767.3	35	1.7	80	E	15	6.7		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.06	763.5	30.07	763.8	39	3.9	55	NW	10	4.5		0	0			Inap.	Inap.	Clear	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	33	0.6	61	W	13	5.8		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	38	3.3	63	NW	16	7.2		2cs	0	Calm		0	0	Clear	
Cape May, New Jersey	29.94	760.5	29.98	761.5	34	1.1	70	W	18	8.0		0	0			0	0	Clear	
Castroville, Texas	29.42	747.3	30.16	766.1	39	3.9	64	N	4	1.8			10s		W	0	0	Clear	
Cedar Keys, Florida	30.19	766.8	30.21	767.3	45	7.2	68	N	15	6.7		0	7s		W		0	Fair	
Charleston, South Carolina	30.11	764.8	30.17	766.3	37	2.8	65	NW	6	2.7		0	0				0	Clear	
Charlotte, North Carolina	29.21	741.9	30.07	763.8	28	— 2.2	77	SW	4	1.8		0	Sm'e		Calm	0	0	Clear	
Chattanooga, Tennessee	29.34	745.2	30.19	766.8	31	— 0.6	69	W	3	1.3		1k	Sm'e	W	Calm	0	0	Clear	
Cheyenne, Wyoming	23.89	606.8	29.83	757.7	6	—14.4	76	NW	2	0.9		0	0			0.01	0.3	Clear	
Chicago, Illinois	29.29	744.0	30.04	763.0	14	—10.0	46	W	8	3.6		0	0			0.20	5.1	Clear	
Cincinnati, Ohio	29.45	748.0	30.15	765.8	20	— 6.7	85	NW	9	4.0		0	1s		Calm	0.03	0.8	Clear	
Cleveland, Ohio	29.14	740.1	29.89	759.2	23	— 5.0	80	SW	13	5.8			10n		SW	0.13	3.3	Light snow	
Coleman City, Texas																			
Columbus, Ohio	29.15	740.4	30.04	763.0	20	— 6.7	85	SW	15	6.7			10s		SW	Inap.	Inap.	Cloudy	
Concho, Texas	28.26	717.8	30.06	763.5	24	— 4.4	74	W			1	0	0			0	0	Clear	
Corsicana, Texas	29.78	756.4	30.29	769.4	32	0.0	79	N	4	1.8		0	0			0	0	Clear	
Davenport, Iowa	29.41	747.0	30.11	764.8	8	—13.3	78	W	5	2.2		0	0			0.06	1.5	Clear	
Dayton, Washington T'y					36	2.2	52	SW			1		10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.17	639.3			20	— 6.7	27	Calm	0	0			10s		Calm	0.15	3.8	Cloudy	
Decatur, Texas	28.96	735.6	30.18	766.6	35	1.7	61	NW	16	7.2		0	0			0	0	Clear	
Denison, Texas	29.41	747.0	30.26	768.6	29	— 1.7	78	SW	7	3.1		0	0			0	0	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	8	—13.3	78	S	7	3.1		0	0			0	0	Clear	
Des Moines, Iowa	29.13	739.9	30.09	764.3	9	—12.8	78	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Detroit, Michigan	29.15	740.4	29.85	758.2	21	— 6.1	100	W	4	1.8			10n		Calm	0.18	4.6	Light snow	
Dodge City, Kansas	27.42	696.5	29.89	759.2	14	—10.0	64	NW	12	5.4		0	0			0	0	Clear	
Dubuque, Iowa	29.32	744.7	30.09	764.3	3	—16.1	73	SW	2	0.9		0	Fog		Calm	0.02	0.5	Foggy	
Duluth, Minnesota	29.22	742.2	30.00	762.0	—18	—27.8	67	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texas	29.41	747.0	30.17	766.3	43	6.1	67	N	4	1.8			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.38	746.2	29.45	748.0	20	— 6.7	85	NW	19	8.5			10s		W	1.10	27.9	Cloudy	
Edinburg, Texas					49	9.4	85	N			1		10s		Calm	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.11	739.4	29.85	758.2	26	— 3.3	75	SW	13	5.8			10s		Calm	0.46	11.7	Cloudy	
Escanaba, Michigan	29.23	742.4	29.95	760.7	1	—17.2	71	W	6	2.7		0	2s		W	Inap.	Inap.	Fair	
Florence, Arizona	28.75	730.2	30.35	770.9	26	— 3.3	88	Calm	0	0		0	0			0	0	Clear	
Fort Apache, New Mexico					24	— 4.4	74	Calm	0	0		0	0			0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.86	707.6	29.83	757.7	10	—12.2	79	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Fort Custer, Montana	26.71	678.4			32	0.0	89	NW	28	12.5			10n		Calm	0.11	2.8	Light snow	
Fort Davis, Texas	25.18	639.6	30.14	765.5	15	— 9.4	82	Calm	0	0		0	0			Inap.	Inap.	Clear	
Fort Gibson, Indian Ter	29.58	751.3	30.15	765.8	26	— 3.3	63	SE	2	0.9		0	0			Inap.	Inap.	Clear	
Fort Grant, Arizona	25.28	642.1	30.08	764.0	24	— 4.4	74	S	1	0.4		0	0			0	0	Clear	
Fort Griffin, Texas	28.93	734.8	30.32	770.1	20	— 6.7	70	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.13	689.1			22	— 5.6	100	N	1	0.4			10n		N	0.02	0.5	Light snow	
Fort McKavett, Texas	27.86	707.6	29.92	760.0	23	— 5.0	73	SW	1	0.4		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.90	734.0	30.09	764.3	22	— 5.6	68	SE	3	1.3		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2			7	—13.9	77	NE	16	7.2		2c	0	NE		0.01	0.3	Fair	
Fort Verde, Arizona					18	— 7.8	53	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.37	720.6	30.00	762.0	38	3.3	45	SW	2	0.9		8cs	0	Calm		0	0	Fair	
Galveston, Texas	30.22	767.6	30.27	768.8	41	5.0	49	NE	13	5.8		0	1s		Calm	0	0	Fair	
Graham, Texas	29.11	739.4	30.26	768.6	19	— 7.2	85	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.23	742.4	29.92	760.0	21	— 6.1	86	NE	6	2.7			10n		Calm	0.24	6.1	Light snow	
Helena, Montana																			
Henrietta, Texas	29.20	741.7	30.20	767.1	25	— 3.9	87	N	8	3.6		0	0			0	0	Clear	
Indianapolis, Indiana	29.25	742.9	30.08	764.0	18	— 7.8	68	W	7	3.1			10s		Calm	0.03	0.8	Cloudy	
Indianola, Texas	30.24	768.1	30.27	768.8	43	6.1	70	NE	21	9.4		10c	0	W		0	0	Cloudy	
Jacksboro, Texas	28.98	736.1	30.19	766.8	23	— 2.2	88	N	6	2.7		0	0			0	0	Clear	
Jacksonville, Florida	30.20	767.1	30.22	767.6	43	6.1	59	NW	7	3.1		2cs	8s	Calm	Calm	0	0	Cloudy	
Keokuk, Iowa	29.42	747.3	30.09	764.3	13	—10.6	72	N	4	1.8		0	0			0.02	0.5	Clear	
Key West, Florida	30.07	763.8	30.11	764.8	66	18.9	79	N	19	8.5			10s		N	0.05	1.3	Cloudy	
Kittyhawk, North Carolina	30.04	763.0	30.06	763.5	37	2.8	53	W	16	7.2		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.13	739.9	30.20	767.1	26.5	— 3.1	83	SW	6	2.7		0	8ks		SW	Inap.	Inap.	Fair	
La Crosse, Wisconsin	29.21	741.9	30.02	762.5	1	—17.2	70	W	4	1.8		0	0			Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	22	— 5.6	58	NW	3	1.3		0	0			0	0	Clear	
Laredo, Texas	29.72	754.9	30.06	763.5	58	14.4	82	NW	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	29.20	741.7	30.10	764.5	23	— 5.0	73	Calm	0	0		5k	5s	W	W	0	0	Cloudy	
Lewiston, Idaho					28	— 2.2	88	E	2	0.9		5k	5s	E	Calm	0	0	Cloudy	
Little Rock, Arkansas	29.90	759.4	30.29	769.4	27	— 2.8	76	Calm	0	0		0	0			0	0	Clear	
Los Angeles, California	29.03	760.2	30.28	769.1	42.5	5.8	50	N	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.54	750.3	30.14	765.5	23	— 5.0	73	SW	4	1.8		10k	0	W		0.01	0.3	Cloudy	
Lynchburg, Virginia	29.31	744.5	30.02	762.5	30	— 1.1	68	SW	8	1.3		0	0			0.34	8.6	Clear	
Madison, Wisconsin	28.93	734.8	30.00	762.0	7	—13.9	77	NW	10	4.5		0	0			0.01	0.3	Clear	
Marquette, Michigan	29.17	740.9	29.94	760.5	5	—15.0	75	NW	5	2.2		0	8s		NW	0.07	1.8	Cloudy	
Mason, Texas	28.53	724.4	30.40	772.1	31	— 0.6	79	SW	2	0.9		1cs	0	W		0	0	Clear	
Memphis, Tennessee	29.89	759.2	30.25	768.3	27	— 2.8	64	W	2	0.9		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.19	741.4	29.98	761.5	11	—11.7	80	W	12	5.4	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.23	767.8	30.28	769.1	36	2.2	80	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.00	762.0	30.25	768.3	35	1.7	80	W	8	1.8	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.93	734.8	29.95	760.7	33	0.6	70	SW	21	9.4	.....	.....	10ks	.....	SW	0.06	1.5	Cloudy	
Mt. Washington, N. H.	22.89	581.4	29.28	742.9	— 2	—18.9	100	NW	54	24.1	.....	.....	Fog	.....	NW	0.17	4.3	Foggy	
Nashville, Tennessee	29.62	752.3	30.19	766.8	32	0.0	89	W	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	
New Haven, Connecticut	29.68	753.9	29.80	756.9	26	— 3.3	75	W	8	1.3	.....	0	Haze	.....	Calm	0.18	4.6	Fair	
New London, Connecticut	29.67	753.6	29.76	755.9	24	— 4.4	72	W	10	4.5	.....	0	0	.....	.....	0.67	17.0	Clear	
New Orleans, Louisiana	30.22	767.6	30.28	769.1	48	8.9	56	N	4	1.8	.....	2c	0	W	.....	0	0	Clear	
Newport, Rhode Island	29.70	754.4	29.75	755.6	24.5	— 4.2	74	W	22	9.8	.....	0	0	.....	.....	0.51	13.0	Clear	
New River, North Carolina	.....	.....	.....	.....	35	1.7	80	W	.....	.....	1	5cs	0	.....	.....	.....	.....	Fair	
New York, New York	29.66	753.4	29.84	757.9	25	— 3.9	62	SW	14	6.3	.....	0	Haze	.....	Calm	0.20	5.1	Clear	
Norfolk, Virginia	30.11	764.8	30.17	766.3	33	0.6	89	W	7	3.1	.....	0	8mehs	.....	E; calm	0	0	Clear	
North Platte, Nebraska	27.04	686.8	29.78	756.4	16	— 8.9	71	NW	12	5.4	.....	5k	5s	NW	NW	0	0	Cloudy	
Olympia, Washington Ter.	30.53	775.4	30.07	779.0	35.0	1.7	95	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.83	732.3	30.00	762.0	18	— 7.8	84	SW	8	3.6	.....	.....	10n	.....	W	Inap.	Inap.	Light snow.	
Oswego, New York	29.43	747.5	29.76	755.9	23	— 5.0	73	NW	15	6.7	.....	.....	10s	.....	NW	1.62	41.1	Cloudy	
Pembina, Dakota	28.93	734.8	29.85	758.2	— 2	—18.9	100	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Pensacola, Florida	30.26	768.3	30.28	769.1	36	2.2	80	N	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	29.86	758.4	29.91	759.7	26	— 3.3	75	W	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Phœnix, Arizona	29.12	739.6	31.06	788.9	33	0.6	51	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.32	439.9	29.53	750.0	—24.5	—31.4	54	NW	48	21.5	.....	0	2s	.....	Calm	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pioche, Nevada	24.17	613.9	29.94	760.5	19	— 7.2	69	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	29.91	759.7	26	— 3.3	75	W	12	5.4	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Port Huron, Michigan	29.13	739.9	29.84	757.9	13	—10.6	81	W	5	2.2	.....	.....	10s	.....	W	0.29	7.4	Cloudy	
Portland, Maine	29.46	748.3	29.52	749.8	20	— 6.7	56	NW	7	3.1	.....	0	0	.....	.....	1.66	42.2	Clear	
Portland, Oregon	30.64	778.7	30.62	777.7	36	2.2	85	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.80	632.2	30.25	768.3	— 6	—21.1	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	52	11.1	66	N	11	4.9	.....	5ck	0	SW	.....	0	0	Fair	
Red Bluff, California	30.04	763.0	30.41	772.4	44	6.7	37	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.02	762.5	30.25	768.3	51	10.6	59	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.13	739.9	29.78	756.4	14	—10.0	82	W	9	4.0	.....	.....	10n	.....	W	0.65	24.1	Light snow.	
Roseburg, Oregon	30.03	762.7	30.65	778.5	31.5	— 0.3	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.37	771.4	30.45	773.4	38.5	3.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.56	750.8	30.19	766.8	17	— 8.3	67	NW	6	2.7	.....	2ck	Sm'e	Calm	Calm	0.01	0.3	Fair	
St. Paul, Minnesota	29.07	738.4	30.02	762.5	—15	—26.1	45	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.80	655.3	30.13	765.3	19	— 7.2	69	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
San Antonio, Texas	29.55	750.6	30.17	766.3	39	3.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.20	767.1	30.28	769.1	43	6.1	50	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.22	742.2	29.92	760.0	24	— 4.4	87	SW	21	9.4	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Sandy Hook, New Jersey	29.83	757.7	29.86	758.4	28	— 2.2	77	W	30	13.4	.....	0	0	.....	.....	0.19	4.8	Clear	
San Francisco, California	30.29	769.4	30.36	771.1	44	6.7	84	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.23	590.0	29.77	756.1	2	—16.7	41	NE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Savannah, Georgia	30.14	765.5	30.23	767.8	40	4.4	65	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.05	763.3	30.29	769.4	31	— 0.6	79	Calm	0	0	.....	5ck	0	S	.....	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.12	765.0	30.15	765.8	35	1.7	90	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Socorro, New Mexico	25.48	647.2	29.45	748.0	13	—10.6	62	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.46	748.0	30.18	766.6	16	— 8.9	66	W	5	2.2	.....	0	0	.....	.....	0.09	2.3	Clear	
Springfield, Massachusetts	29.62	752.3	29.76	755.9	25	— 5.0	60	W	3	1.3	.....	0	0	.....	.....	0.29	7.4	Clear	
Stockton, Texas	27.14	689.3	30.14	765.5	27	— 2.8	8	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.60	751.8	29.66	753.4	18	— 7.8	87	NW	12	5.4	.....	2k	0	NW	.....	0.87	22.1	Fair	
Toledo, Ohio	29.17	740.9	29.89	759.2	23	— 5.0	87	SW	16	7.2	.....	.....	10n	.....	SW	0.04	1.0	Light snow.	
Tucson, Arizona	27.72	704.1	30.27	768.8	28	— 2.2	88	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.11	764.8	30.65	778.5	24	— 4.4	87	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.32	744.7	30.17	766.3	40	4.4	65	E	1	0.4	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.03	762.7	30.31	769.9	32	0.0	79	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.24	615.7	29.72	754.9	19	— 7.2	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.96	761.0	30.36	771.1	32	0.0	89	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.86	758.4	29.98	761.5	25	— 3.9	75	SW	4	1.8	.....	0	1s	.....	Calm	0.01	0.3	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	23	— 5.0	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.03	762.7	30.12	765.0	34	1.1	79	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Winnemucca, Nevada	25.97	659.6	30.33	770.4	13	—10.6	62	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.70	754.4	29.74	755.4	26	— 3.8	88	NW	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.56	725.4	29.92	760.0	20	— 6.7	85	W	6	2.7	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Yuma, Arizona	30.18	766.6	30.34	770.6	42	5.6	27	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	72	22.2	81	N	9.6	4.3	.....	.....	10n	.....	N	0.07	1.8	Light rain	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	73	22.8	86	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	79	26.1	91	NE	.....	.....	2	3c	5k	E	.....	0	0	Fair	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.43	747.5	29.98	761.5	81	27.2	76	NW	.....	.....	2	.....	8ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.05	763.3	30.08	764.0	74	23.3	76	Calm	0	0	.....	1inze	0	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.91	759.7	29.97	761.2	—28.0	—33.3	.....	NW	15	6.7	.....	2c	2s	W	NW	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-160.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1 670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NavyYard,Pensacola, Fla.	30.27‡	768.8‡	.....	.....	38	3.3	81	NE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
NavyYard,Portsmouth,N.H.	29.60‡	751.8‡	.....	.....	26	— 3.3	63	NE	11	4.9	.....	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Naval Hospital, Yokohama, Japan	30.11‡	764.8‡	.....	.....	37.5	3.1	42	NNE	.....	.....	6	.....	10ks	.....	W	0	0	.....	.....	Cloudy.....	
Adams, San Francisco, Cal.	30.49‡	774.4‡	.....	.....	49	9.4	71	NW	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Alaska, S. 17° 35′ W. 71° 52′... *	29.03‡	760.2‡	.....	.....	73	22 8	85	E	.....	.....	3	.....	2	.....	W	.....	.....	Mod'ate	SE	D. clouds....	
Colorado, New York, N. Y.	29.82‡	757.4‡	.....	.....	26	— 3.3	.....	WNW	11.3	5.1	.....	.....	0	.....	.....	0.017	0.43	.....	.....	Clear.	
Constitution, As, inwall, Panama	29.95‡	760.7‡	.....	.....	78	25.6	82	NNE	.....	.....	2	.....	5?	.....	NNE	.....	.....	.....	.....	Clear?.....	
Enterprise. Messina, Italy	30.30‡	769.6‡	.....	.....	56	13.3	75	E	.....	.....	4	.....	4	.....	ESE	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk,Va.	30.04‡	763.0‡	.....	.....	34	1.1	61	WSW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.33‡	770.4‡	.....	.....	43	6.1	75	ENE	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, N. 23° 06′, W. 85° 03′	30.08‡	764.0‡	.....	.....	71	21.7	85	NNE	.....	.....	3	.....	10	.....	NNE	.....	.....	Long	NNE	Cloudy.....	
Lackawana, Navy Yard,Mare I'd.,Cal.	30.35‡	770.9‡	.....	.....	46	7.8	84	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Marion, Rio de Janeiro, Brazil.	29.88‡	758.9‡	.....	.....	80	26.7	81	SSE	.....	.....	2	.....	5	.....	Calm	Light	Light	.....	.....	Fair.....	
Michigan, Erie, Pa.	29.79‡	756.7‡	.....	.....	25	— 3.9	62	SW	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Light snow.	
Monocacy, Shanghai, China.	30.37‡	771.4‡	.....	.....	38	3.3	91	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Raining.....	
New Hampshire, Port Royal, S. C.	30.19‡	766.8‡	.....	.....	40	4.4	73	NW	12	5.4	.....	.....	1	.....	Calm	0	0	.....	.....	Clear	
Nipsic, Carupano,Venezuela,S A.	29.91‡	759.7‡	.....	.....	73	22.8	81	WSW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds.....	
Onward, Callao, Peru †.	29.91‡	759.7‡	.....	.....	68.5	20.3	92	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Fair.....	
Palos, Tientsin, China.	30.59‡	777.0‡	.....	.....	20	— 6.7	??	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Passaic, Washington, D. C.	29.98‡	761.5‡	.....	.....	26	— 3.3	88	W	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, Callao, Peru	29.91‡	759.7‡	.....	.....	69	20.6	95	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Smooth	.....	D. clouds ...	
Powhatan, Elizabeth river, Va.	30.03‡	762.7‡	.....	.....	35	1.7	70	W	.....	.....	5	.....	2	.....	Calm	0	0	.....	.....	Squally.....	
Quinnebaug, Leghorn, Italy	30.36‡	771.1‡	.....	.....	64	17.8	39	E	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger. N. 38° 55′, W. 132° 30′	30.57‡	776.5‡	.....	.....	51	10.6	79	NE	.....	.....	5	.....	8	.....	NE	.....	.....	Mod ate	NE	Misty.....	
Richmond, Hong-Kong, China.	30.00‡	762.0‡	.....	.....	63	17.2	100	E	.....	.....	3	.....	10	.....	E	0.05	1.3	Smooth	.....	Threatening	
Rio Bravo, Brownsville, Texas... †	30.36‡	771.1‡	.....	.....	48	8.9	100	NNW	2	0.9	.....	.....	10	.....	N	0.02	0.5	.....	.....	Cloudy.....	
Santee, Annapolis, Md	29.98‡	761.5‡	.....	.....	28	— 2.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
Shenandoah, Montevideo, Uruguay	29.85‡	758.2‡	.....	.....	76	24.4	77	N	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
St. Louis, League Island, Pa.	29.94‡	760.5‡	.....	.....	27	— 2.8	.....	WNW	19	8.5	.....	.....	2	.....	NW	0.07	1.8	.....	.....	Clear	
Swatara, N. 36° 56′, W. 31° 10′....	29.93‡	760.2‡	.....	.....	58	14.4	70	NNE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear	
Tennessee, Norfolk, Va.	30.03‡	762.7‡	.....	.....	33	0.6	70	WSW	13	5.8	.....	.....	0	.....	.....	0	0	.....	.....	Blue sky....	
Trenton, Toulon, France.	30.34‡	770.6‡	.....	.....	64	17.8	48	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 13° 05′, W. 88° 20′.	29.95‡	760.7‡	.....	.....	78	25.6	86	NNE	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Clear.	
Wabash, Boston, Mass.	29.69‡	754.1‡	.....	.....	21	— 6.1	71	W	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wachusett, Montevideo, Uruguay	30.39‡	771.5‡	.....	.....	76	24.4	73	N	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	N	Fair.....	
Wyoming, Naples, Italy	30.31‡	769.9‡	.....	.....	57	13.9	52	S	.....	.....	0-1	.....	2	.....	S	.....	.....	Smooth	S	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Grahani.																			John France.
S. S. Peruvian, N. 51° 56′, W. 37° 20′....*	29.80‡	756.9‡	34	1.1	70	NNW			6		6		NW	0	0		wsw	Cloudy	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.
AMERICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Philadelphia, Pa	30.31‡	769.9‡	30	— 1.1	47	NW			6		6		NW	0	0			Clear.	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger. N. 38° 24′, W. 122° 29′...†	30.52‡	775.2‡				NW			5		0					Small	NW	Clear	
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Rislus.
S. S. Ohio, G. Meyer,																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, N. 32° 20′, E. 156° 10′....†	30.03‡	762.7‡	64	17.8	94	SW			2		5		SW			Smooth		Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 56′, W. 146° 39′...†	30.02‡	762.5‡	46	7.8		W			4		8		W	Slight	Slight	Mod'ate	NW	Squally	J. A. Thompson.
S. S. Oceanic, Metcalf																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander, N. 35° 18′, W. 120° 51′...†	30.30‡	769.6‡	54	12.2		E			2		0			0	0	Mod'ate	W	Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, O. Debney																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

NOTE—The originals give the wind-force by the scale 0 to 12.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 23° 35', W. 111° 10'....†	30.10‡	764.5‡	62	16.7	100	NE			5		1		NE	0	0	Mod'ate	NNE	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann....																			E. Polemann.
S. S. City of Panama, M. Connolly....																			R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio J. Maury Hong Kong, China.....†	29.91‡	759.7‡	64	17.8	83	ENE			4		10		NE	0	0	Smooth		Cloudy.....	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths Seattle Harbor, Washington Ter.†	30.58‡	776.7‡	42	5.6		Calm			0		8		Calm	0	0			Hazy.....	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Zealandia, R. C. Ghest.																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes. N. 41° 58', W. 52° 17' ....†	29.65‡	753.1‡	62	16.7		SW	8	3.6			10		SW			High	SW	Raining	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE MARINE, SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,.... ..																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 20', E. 60° 20'..... *	29.55‡	758.2‡	62	16.7		N			5		10					Short	N	Foggy.....	B. F. Woodbury.
Brigantine George, W. H. Champlin, Arroyo, Porto Rico, W. I.†	30.17‡	766.3‡	74	23.3		ENE			5		8		NE	Blank	Blank	Rough		Fair.....	
Iron Cross, W. Randall, N. 59° 20', W. 18°45'..	29.81‡	757.2‡	50	10.0	100	NW			6		10		W	Slight	Slight	Long	WNW	Drizzling.....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

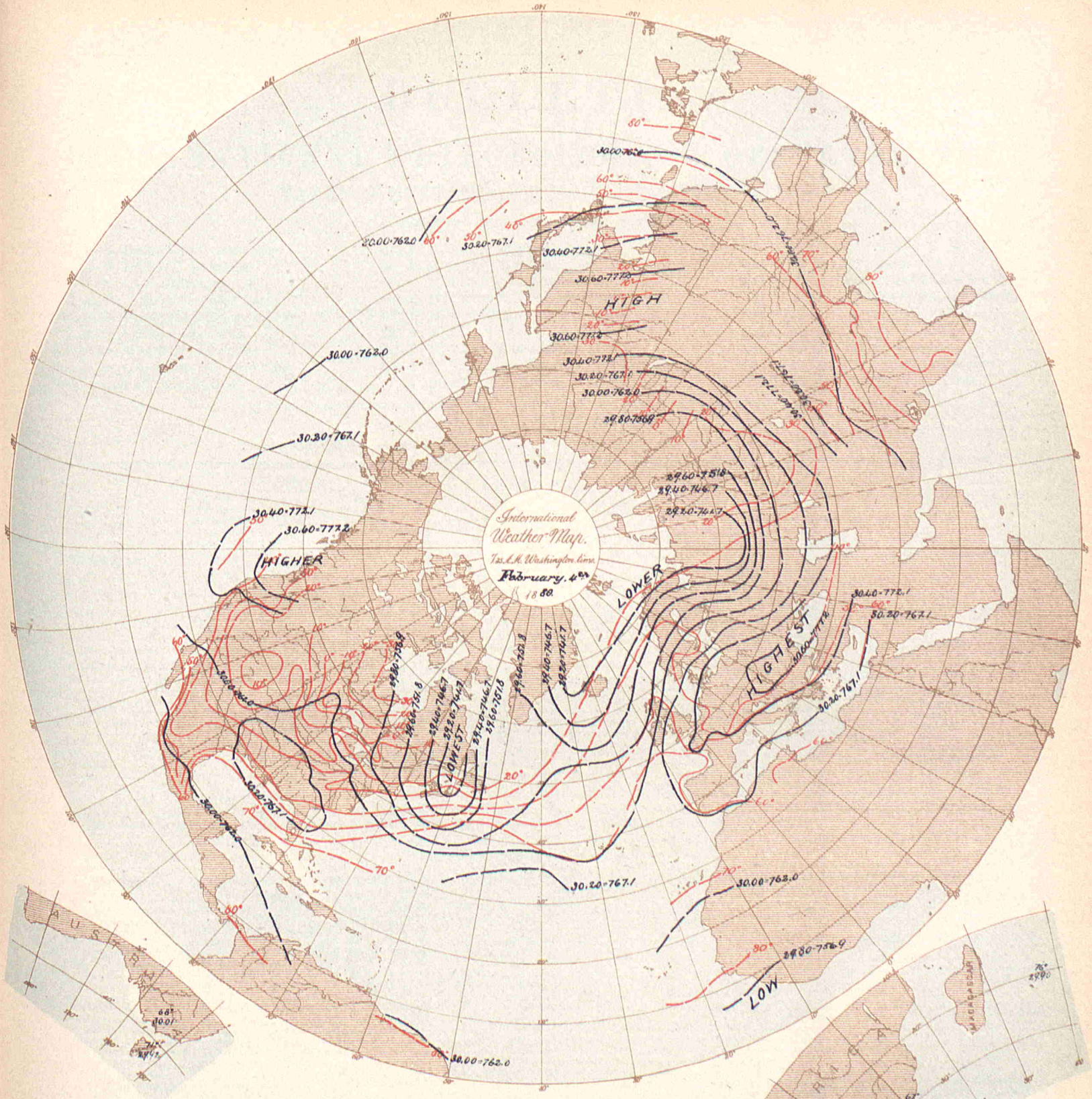
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 5, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.9	.....	.....	.....	SW	.....	.....	1	.....	3	.....	.....	0	0	Pretty fair.	
Nemours	.....	.....	30.24	768.1	59.7	15.4	80	E	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.21	767.2	57.2	14.0	80	N	.....	.....	2	.....	5	.....	.....	0.142	3.6	Cloudy	Touriliere.
La Calle	.....	.....	30.15	765.9	54.9	12.7	83	ENE	.....	.....	3	.....	10	.....	.....	0.110	2.8	Covered.	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.16	766 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.15	765.7	44.8	7.1	82	E	.....	.....	2	.....	10	.....	.....	0.150	3.8	Covered.	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.14	765.5	54.3	12.4	52	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.09	764.2	62.6	17 0	61	NW	.....	.....	5	.....	2	.....	.....	Inap.	Inap.	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.82	757.4	30.43	772.9	13.1	—10.5	97	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.52	749.7	30.33	770.4	30.2	— 1.0	76	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.45	748.1	30.42	772.6	18.0	— 7.8	89	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.02	737.0	30.34	770.6	29.5	— 1.4	65	S	.....	.....	1	.....	9	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.91	734.2	30.45	773.5	22.5	— 5.3	81	ESE	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster, Observatory	28.90	734.0	30.36	771.1	19.4	— 7.0	100	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	The Staff.
Lemberg	29.25	742.9	30.28	769 2	37.4	3.0	51	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.14	765.6	30.26	768 5	40.3	4.6	90	WNW	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	30.03	762.8	30.55	776.0	9.7	—12.4	77	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	30.13	765.4	30.44	773.2	19.0	— 7.2	100	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.16	766.1	30.26	768.7	46.2	7.9	60	W	.....	.....	1	.....	0	.....	.....	0	0	Foggy	P. Busin.
Vienna	29.63	752.5	30.37	771.4	17.6	— 8.0	100	SSE	.....	.....	1	.....	10	.....	.....	0.024	0.6	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.07	761.1	30.17	766.4	40 1	4.5	79	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Royal Observatory.
Furnes	30.15	765.7	30.17	766.3	44.4	6.9	79	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.08	763.9	30.20	767.1	39.2	4.0	76	SW	.....	.....	2	.....	0?	.....	.....	.....	.....	Light rain?	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D. C., as Second-Class Matter.

BRITISH SERIES.

Furn'shed by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.65	758.1	29.75	755.6	46.7	8.2	.....	WNW	18	8.0	.....	.....	2	.....	.....	0.010	0.25	Blue sky.....	W. Boswell.
Ardrossan	29.83	757.7	29.84	757.9	45	7.2	.....	WNW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	G.Carrick.
Armagh, (Observatory)	29.71	754.6	29.95	760.7	43.4	6.3	.....	W	10	4.5	.....	.....	2	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.92	760.0	44.0	6.7	.....	W	17	7.6	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton (Sharples)	29.38	746.2	29.90	759.4	38.7	3.7	.....	SSW	2	0.9	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.50	749.3	29.89	759.2	45.1	7.3	82	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.02	762.5	78.5	25.8	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.95	760.7	30.05	763.3	43.0	6.1	.....	S	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.98	761.5	42.0	5.6	.....	S	.....	.....	0–1	.....	4	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chr tham (School M. E.)	30.00	762.0	30.14	765.5	38.1	3.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	F. Magauran, Q. M. S'gt., R. E
Dor ghsdee	29.88	758.9	29.92	760.0	47	8.3	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.11	764.8	30.14	765.5	40	4.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth (Observatory)	29.78	756.4	30.01	762.2	48.9	9.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & fog...	The Staff.
Fort Napier, Natal	27.54	699.5	29.78	756.4	78.4	25.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.57	751.1	29.80	756.9	87	30.6	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.91	759.7	49	9.4	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	M O'Donaghue.
Gibraltar, Mediterranean.§	30.10	764.5	30.15	765.8	57.3	14.1	.....	E	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.63	752.6	29.83	757.7	43.9	6.6	.....	W	.....	.....	5	.....	6k	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.07	763.8	30.07	763.8	43	6.1	.....	SSW	.....	.....	2	.....	2	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.93	760.2	30.10	764.5	41.7	5.4	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G.B.Airy.
Guernsey	29.80	756.9	30.02	762.5	43.5	6.4	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.14	765.5	30.27	768.8	50	10.0	.....	SW	.....	.....	6	.....	10n	.....	.....	.....	.....	Raining.....	M. P. Moyle.
Holyhead	29.87	758.7	29.94	760 5	46	7.8	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.88	758.9	30.20	767.1	40.3	4.6	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew (Observatory)	30.06	763.5	30.10	764.5	39.2	4.0	.....	SSW	9	4.0	.....	.....	1	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	29.77	756.1	30.03	762.7	34.6	1.4	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.92	760.0	30.00	762.0	56	13.3	.....	NE	.....	.....	4	.....	10n	.....	.....	.....	.....	Raining	A. King.
Nairn	29.64	752.8	29.73	755.1	44	6.7	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	W.D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	75.5	24.2	.....	NW	.....	.....	.....	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.82	757.4	30.01	762.2	42.1	5.6	.....	SSW	.....	.....	3	.....	10n	.....	.....	0.062	1.57	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.46	748.3	29.99	761.7	40.6	4.8	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.83	757.7	30.09	764.3	43	6.1	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	29.97	761.1	30.04	763.0	47.1	8.4	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
*Roche's Point	29.90	759.4	29.99	761.7	48	8.9	.....	N	.....	.....	4	.....	5	.....	.....	0ban	Blank	½ clouded...	Wm. Kennedy.
St. Ann's Head	29.78	756.4	29.94	760.5	47	8.3	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.69	754.1	41	5.0	.....	W	18	8.0	.....	.....	5	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.25	768.3	30.32	770.1	41.6	5.3	.....	ENE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Serg't W. H. Lyne.
Sheffield	29.66	753.9	29.97	761.2	43.9	6.6	.....	S	.....	.....	3	.....	6	.....	.....	0.07	1.8	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	45.9	7.7	82	SW	.....	.....	3	.....	5	.....	.....	0 050	1.27	D. clouds.....	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.89	759.2	42.0	5.6	.....	SW	9	4.0	.....	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. S. J. Perry.
Stratfield, Turgiss	29.89	759.2	30.11	764.8	45.2	7.3	.....	S	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.94	760.5	30.00	762.0	51	10.6	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	29.99	761.7	30.02	762.5	48.1	8.9	.....	NW	9	4.0	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.78	756.4	29.82	757.4	79.5	26.4	63	S	14.0	6.3	.....	0	1k	.....	.....	0	0	Vapory.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	80	31.7	.....	SE	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.13	765.3	64.0	17.8	82	SE	.....	.....	2	.....	10k	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.84	757.9	46.2	7.9	.....	W	.....	.....	3	.....	5k	.....	.....	Blank	Blank	Fine.....	C. Meldrum.
Mauritius (Observatory)	29.72	754.9	29.90	759.6	80.0	26.7	76	ENE	15.5	6.9	.....	2	4	.....	.....	1.56	39.6	Cloudy.....	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	68.2	20.1	81	SSW	9	4.0	.....	.....	3	.....	.....	0	0	Hazy.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.75	755.6	45	7.2	.....	WNW	.....	.....	4	10	5	SW	.....	0.3	8.	.....	
North Unst, Shetland Is	.....	.....	29.40	746.7	.....	.....	.....	S	.....	.....	7	10	10	S	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 49° 52' W. 45° 40'	.....	.....	29.75‡	755 6‡	51	10.6	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Foggy	Capt. Thos. Young.
City of Cashmere, S. 32° 41', W. 32° 08'	.....	.....	30.11‡	764 8‡	76 8	24.9	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	Capt. W. M. Grieve
Bqte Fylde, N. 3° 15', W. 47° 50'	.....	.....	30.43	772.9	63	17.2	.....	W	.....	.....	1	.....	7	.....	.....	3	NNE	D. clouds.....	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.66‡	754.1‡	70	21.1	.....	E	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky.....	Capt. O. D. Coxwell
S. S. Richmond, N. 22° 55', W. 75° 45'	.....	.....	30.18	766.6	76	24.4	.....	ESE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 16° 09' E. 76° 58'	.....	.....	29.96‡	761.0‡	79.8	26.6	.....	SE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds. ...	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt.J.P Maclear, R.N
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	69.9	15.5	80	SE	.....	.....	1	4c;ck	0	.....	.....	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.00	762.0	30.05	763.2	30.2	— 1.0	98	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Faröe	30.00	762.1	30.02	762.6	35.1	1.7	90	SSW	.....	.....	4	.....	1	.....	.....	.....	.....	Foggy	.....
Godthaab (Greenland)	29.53	750.1	29.58	751.2	1.9	—16.7	90	NE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.08	738.7	29.13	739.8	27.7	— 2.4	96	SW	.....	.....	6	.....	8	.....	.....	.....	.....	Snowing	.....
Thorshavn (Faröe)	29.53	750.0	29.56	750.9	39.4	4.1	74	SSE	.....	.....	1	.....	3	.....	.....	.....	.....	.....	.....
Vestervig	29.81	757.2	29.92	760.0	39.0	3.9	87	S	.....	.....	6	.....	0	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.71	754.6	30.26	768.6	34.7	1.5	93	S	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Collignon, Director.
Amiens, Normal School	30.09	764.3	30.21	767.2	45.0	7.2	77	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.93	760.2	30.20	767.0	41.0	5.0	73	SSW	.....	.....	2	.....	.....	.....	.....	0	0	Light fog	Klein, Commandant.
Avignon, Normal School	30.22	767.6	30.30	769.6	61.1	10.6	48	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.66	753.3	30.24	768.1	40.1	4.5	74	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.93	760.3	30.22	767.5	34.3	1.3	78	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Eugene Marie.
Besançon, Normal School	29.43	747.6	30.38	771.6	34.2	1.2	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	A. Carré, Director.
Bordeaux	30.04	762.9	30.23	767.9	56.5	13.6	39	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.45	748.1	30.37	771.5	41.0	5	69	S	.....	.....	1	5c	.....	.....	.....	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.74	755.4	30.32	770.0	40.3	4.6	80	NNE	.....	.....	1	.....	1	.....	NNE	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.89	759.1	30.13	765.3	48.9	9.4	92	SSW	.....	.....	2	.....	10	.....	SSW	0	0	.....	Ch. de Rermarec, Dir.
Caen, Normal School	30.08	763.9	30.15	765.8	45.7	7.6	77	SSW	.....	.....	.....	.....	1	.....	SW	0	0	Clear.	M. Bietrin, Director.
Carcassonne, N. School	29.82	757.5	30.24	768.2	56.7	13.7	39	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	30.01	762.2	30.34	770.7	37.4	3.0	69	Calm	.....	.....	0	.....	10	.....	.....	0	0	Covered	Jadot, Director
Chartres, Normal School	29.63	752.6	30.21	767.3	44.6	7	89	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.87	733.4	30.24	768.1	53.8	12.1	45	NNE	.....	.....	1	.....	0	.....	.....	0	0	.....	Allnard, Director.
Commercy, Normal School	29.38	746.3	30.29	769.4	31.1	— 0.5	92	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	29.17	740.8	30.31	769.8	56.5	13.6	21	N	.....	.....	2	.....	2	.....	NW	0	0	.....	Meyrol, for L. Kilia, Dir.
Grenoble, Normal School	29.54	750.2	30.35	770.8	55.6	2	.....	ENE	.....	.....	1	c	.....	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.08	763.9	30.30	769.5	47.5	8.6	83	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.95	760.8	30.28	769.0	39.4	4.1	83	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.39	746.6	30.34	770.6	38.5	3.5	63	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Baudry, Director
Lorient, Naval Observatory	30.11	764.7	30.22	767.5	46.4	8.0	91	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Lt. T. Carré, Director
Lyons Obs'y (Park Station)	29.68	753.9	30.34	770.6	31.5	— 0.3	97	ENE	.....	.....	1	.....	5	.....	.....	0	0	Light mist	Ch. André, Director
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	30.00	762.0	30.27	768.9	57.4	14.1	49	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	E. Stephan, Director.
Mirecourt, Normal School	29.13	739.9	30.24	768.2	34.5	1.4	81	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Barbier, Director.
Mont-Louis	24.95	633.7	30.26	768.7	37.0	2.8	60	E	.....	.....	3	.....	3	.....	E	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.21	767.4	30.25	768.3	56.5	13.6	60	SW	.....	.....	2	.....	1	SW	SW	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	30.09	764.2	30.30	769.6	55.8	13.2	75	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. Boyer, Director.
Perpignan	30.18	766.5	30.28	769.2	50.0	10.0	71	SW	3.8	1.7	.....	.....	2	W	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.61	574.6	.....	.....	32.9	0.5	.....	.....	.....	.....	.....	.....	1	.....	NNW	0	0	Clear.	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	29.30	744.2	30.40	772.2	47.1	8.4	72	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Taillieu
Puy de Dome (Summ't) Obs	25.31	642.9	.....	.....	38.8	3.8	49	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	30.28	769.2	30.32	770.0	49.8	9.9	89	S	.....	.....	2	.....	5	S	S	0	0	½ covered	Lt E. Decante, Director
Rouen, Normal School	30.12	765.0	30.21	767.2	37.8	3.2	74	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frère Lucard, Director
Saint Malo (Port) Obs'y	30.12	765.0	30.16	765.8	41.7	5.4	91	SSE	.....	.....	3	.....	5	S	S	0	0	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.07	763.8	30.24	768.0	43.2	6.2	76	SSW	.....	.....	1	.....	0	.....	.....	0.031	0.8	Clear.	E. Renou, Director.
Tarbes, Normal School	29.17	740.9	30.25	768.3	59.0	15.	58	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.59	751.5	30.32	770.0	50.0	10.0	74	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	B. Baillaud, Dir.
Tours	30.02	762.6	30.22	767.6	45.7	7.6	72	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	M. de Tastes.
Versailles, Observatory	29.71	754.7	30.21	767.2	48.2	9.0	61	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.55	750.6	30.30	769.6	36.5	2.5	91	ESE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Nicot, Director.
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	30.04	763.0	30.07	763.7	75.2	24.	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchésl
Paris, Montsouris Obs'y	29.95	760.8	.....	.....	43.5	6.4	78	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.34	770.6	30.37	771.3	37.8	3.2	97	N	5.6	2.5	.....	.....	10n	.....	.....	0.150	3.8	Raining	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,886 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.43	747.4	30.30	769.5	19.8	— 6.8	75	NW			2		4s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.97	761.3	30.12	765.1	32.7	0.4	68	SW			2		0			0	0		Prof. Dr. Arndt.
Breslau	29.69	754.0	30.22	767.6	38.1	3.4	62	SSE			2		0			0	0		Royal University Obs'y
Carlsruhe	29.83	757.7	30.29	769.4	25.2	— 3.8	96	SW			2		0			0	0		Albert Senz.
Cassel	29.57	751.0	30.18	766.5	24.8	— 4.0	83	S			2		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.98	761.4	30.36	771.2	20 8	— 6.2	71	W			0		5			0	0		Physical Society.
Friedrichshafen	28.83	732.3	30.37	771.3	25.9	— 3.4	100	SW			1		10			0	0	Dense fog	Chief Telegrapher Wilhelm.
Hamburg	30.06	763.5	30.13	765.3	29.8	— 1.2	88	Calm			0		0			0	0		Dr. Reinhold Kleeman.
Kiel	30.05	763.3	30.07	763.7	32.9	0.5	87	SW			2		0			0.001	0.02		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.13	765.4	30.22	767.6	32.9	0.5	98	SW			4		10			0.004	0.1	Foggy	Prof. E. Luther.
Köslin			30.16	766.1	35.8	2.1		Calm			0		0			0	0		H. Müller.
Leipsic Observatory	29.79	756.6	30.23	767.9	30.9	— 0.6	70	SW			2		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.95	760.8	30.18	766.6	26.6	— 3.0	72	Calm			0		0			0	0	Hazy	Dr. Assmann.
Memel	30.15	765.8	30.20	767.0	32.9	0.5	100	SW			4		10n					Foggy	Reinbrecht & Issermann
Munich (München)	28.39	721.1	30.27	768.8	26.2	— 3.2	79	N			1		0			0	0		Dr. C. Lang.
Neufahrwasser	30.20	767.1	30.22	767.5	34.0	1.1	90	S			3		10			0	0	Foggy	A. Lothes.
Neustadt (Palatinate)	29.72	755.0	30.24	768.1	27.9	— 2.3	98	Calm			0		0			0	0		Reallehrer Dicknether.
Posen	29.91	759.7	30.21	767 4	34.0	1.1	79	SE			2		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.74	755.4	30.33	770.3	28.6	— 1.9	88	SW			1		2			0	0		Imp. University Observatory.
Stuttgart	28.26	743.3	30.26	768.5	32.5	0.3	89	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.09	764.3	30.28	769.1	34.0	1.1	93	Calm			0		9			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.75	730.2	30.34	770.6	28.8	— 1.8	74		0.2	0.1						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.09	764.2	30.11	764.8	29.8	— 1.2	100	SSE			3		10			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.88	758.9	30.28	769.0	51.1	10.6		NE			3.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.1	30.02	762.4	66.8	19.3	30	WSW	17	7.6			0			0	0	Blue sky	
Deesa	29.51	749.5	29.99	761.8	72.3	22.4	6	N	12.9	5.8			0			0	0	Misty	
Bombay	29.86	758.4	29.90	759.4	76.3	24.6	60	NNW	19	8.5			0			0	0	Blue sky	
Poona (Yarrowda)	28.00	711.1	29.83	757.6	86.1	30.1	26	WNW					2		W	0	0	D. clouds	
Belgaum	27.33	694.2	29.85	758.2	79.2	26.2	50	SW	9	4.0			0			0	0	Blue sky	
Lahore	29.25	742.9	30.03	762.8	56.6	13.7	31	Calm	1.0	0.4			0			0	0	Blue sky	
Roorkee	29.06	738.1	29.99	761.7	64.8	18.2	44	NW	2.6	1.2			4			0.01	0.3		
Agra	29.36	745.8	29.94	760.5	70.7	21.5	37	W	5.5	2.5			0			0	0	Blue sky	
Nagpur	28.80	731.6	29.85	758.1	82.9	28.3	33	Calm	2.0	0.9			0			0	0	Blue sky	
Jubbulpore	28.51	724.1	29.89	759.1	74.8	23.8	39	Calm	2.6	1.2			0			0	0	Blue sky	
Lucknow	29.52	749.8	29.91	759.7	69.1	20.6	68	ENE	1.3	0.6			0			0.12	3.3	Blue sky	
Allahabad	29.57	751.1	29.89	759.3	70.0	21.1	64	Calm	3.5	1.6			0			0	0	Blue sky	
Patna	29.69	754.1	29.88	758.8	71.1	21.7	57	SW	0.4	0.2			0			0	0	Blue sky	
Hazaribagh	27.81	706.3	29.84	757 9	73.3	22.9	47	NW	5.0	2.2			0			0	0		
Cuttack	29.81	757.1	29.89	759.2	78.9	26.1	57	SW	1.7	0.8			3			0	0	Blue sky	
Jalcutta (Alipore)	29.83	757.7	29.85	758.2	75.0	23.9	56	SSW	6.0	2.7			0			0	0	Blue sky	
Goalpara	29.40	746.6	29.79	756.7	70.4	21.3	60	Calm	1.5	0.7			0			0	0	Blue sky	
Chittagong	29.80	756.8	29.89	759.1	73.0	22.8	80	SW	2.9	1.3			0			0	0	Blue sky	
Sibsagar	29.51	749.4	29.85	758.3	64.3	17.9	92	NW	1.0	0.4			0			0	0		
													10	W	W	0	0	Overcast	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.84	757.9	30.26	768.7	47.1	8.4	21	NE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.76	756.0	30.31	769.8	39.2	4.0	87	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.17	766.3	30.28	769.2	43.9	6.6	35	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.37	745.9	30.31	769 8	39.4	4.1	72	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	30.04	762.9	30.23	767.9	55.2	12.9	15	N	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.31	719.0	30.28	769.1	43.0	6.1	36	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.24	768.0	30.29	769.3	40.3	4.6	60	NW	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29 97	761.1	30.23	767.9	51.8	11.0	27	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.15	765.7	30.24	768 0	51.8	11.0	31	N	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.04	762.9	30.22	767 5	51.8	11.0	45	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.96	761.0	30.23	767.7	53.1	11.7	65	NNE	11.9	5.3	.....	.....	5	N	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	30.13	765.3	30.25	768.4	48.2	9.0	71	NW	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.96	760.9	30.16	766.0	59.0	15.0	63	E	.....	.....	2	.....	8	E	.....	0.098	2.5	.....	Prof. A. Pacinotti.
Palermo	29.90	759.4	30.15	765 9	57.7	14.8	78	NE	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cincciatore.
Syracuse	30.07	763.7	30.11	764.8	58.8	12.1	71	ENE	19.9	8.9	.....	.....	9	ENE	.....	0.319	8.1	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.64	752.8	30.17	766 3	53.6	12.0	52	NE	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.38	771.6	30.40	772.1	36 6	2.5	66	NE	4.5	2.0	.....	.....	10s	.....	.....	0.023	0.58	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.07	763.8	30.28	769.1	38.8	3.8	93	NNE	4.9	2.2	.....	.....	10n	.....	.....	0.385	9.78	Light rain	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.41	772.4	30.49	774.4	31.2	— 0.4	85	ENE	6.3	2.8	.....	0	0	.....	.....	0	0	Fair	The Staff.
Wakayama	30.33	770.4	30.39	771.9	35.8	2.1	69	NE	6.9	3.1	.....	.....	10s	.....	.....	0.162	4.11	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.04	636.1	30.21	767.2	44.6	7.0	50	Calm	.....	.....	0	9ks	0	.....	.....	0	0	Cloudy	Prof. L. Perez.
Leon	24.43	620.5	30.20	767.1	52.3	11.3	75	W	.....	.....	1	10c	0	SW	.....	0	0	Cloudy	Prof. M. Leal.
Mazatlan	29.79	756.6	30.06	763.4	59.0	15.0	87	Calm	.....	.....	0	.....	10k	.....	.....	0	0	Covered	F. Quijano, C. E.
Mexico, Central Observatory	23.03	585.0	30.28	767.8	41.5	5.3	68	Calm	0	0	.....	9ck	0	NW	.....	0	0	Fine	The Staff
Morelia	24.07	611.4	.....	.....	55.6	13.1	48	SW	.....	.....	4	2c	6k	SE	SW	0	0	Cloudy"	M. Fena, M. D.
Pabellon (Aguascalientes)	23.91	607.4	30.00	762.0	46.2	7.9	55	Calm	.....	.....	0	8c	2s	SW	SW	0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.7	30.24	768.0	46.4	8.0	56	Calm	0	0	.....	10	2ck	.....	S	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.15	613.3	30.31	769.8	43.2	6.2	59	SE	.....	.....	1	.....	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.06	763.5	30.07	763.8	66.4	19.1	85	N	.....	.....	4	.....	10	.....	N	0.024	0.6	Threatening	Prof. M. M. Chazaro.
Vera-Cruz	30.07	763.8	30.10	764.5	68.0	20.0	76	N	18.3	8.2	.....	.....	10n	.....	.....	0	0	Covered	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon

NOTE.—The elevation of Colima is 507.8 m., or 1,664.4 ft.; Guadalajara, 1,560.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.16	766.1	30.16	766 1	37.8	3'2	.....	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.07	763.6	30.12	765.0	35.6	2.0	.....	SSW	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.08	764.0	30.08	764.0	37.4	3.0	.....	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.14	765.6	30.14	765.6	36.0	2.7	75	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.11	764.8	30.16	766.0	37.9	3.3	72	S	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.49	749.0	29.54	750 4	43.9	6.6	88	S	35.1	15.7			10			0.150	3.8	Raining	
Brönö	29.21	742.0	29.25	743.0	33.4	0.8	87	NNE	4	2			10			0.150	3.8	Rain & snow	
Christiana	29.54	750.4	29.69	754.2	39.0	3.9	92	SSW	18	8			9			0.024	0.6		
Tromsö	29.05	737.8	29.09	738.9	30.7	— 0.7	86	SW	9	4			10			0.417	10.6	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)																			Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.32	770.2	55.8	13.2	55	E	8.1	3.6			7						Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.08	764.0	30.17	766.2	64.2	17.9	52	ESE	9.8	4.4			2			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.95	760.8	30.32	770.1	55.0	12.8	56	NE	8.7	3.9			0			0	0		The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.30	769.6	64.4	18.0	72	Calm	0	0			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. . e Sande, Com'd't.
Duque da Terceira				J. C M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't
Rio Lima. Capt. S. C. da Silva Costa. N. 12° 38′, W. 18° 28′				
Sá da Bandeira		NE	D. clouds	A. de Souza Roza, 2nd L't
Sado. Capt. J. A de Brito Capello,				F. Teixeira da Silva, Comd't.
St. Paul de Loando		WNW		
Tejo, Capt. J. M. T. Guimarães,				A. Terceira, 2nd Lieut.
Macao, China		NE	Drizzling, 10 minutes rain-fall.	
		NE	Raining, 1 hr' rain-fall	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.03	737.3	29.05	737.8	35.4	1.9	84	WSW	22	10			10						Capt. Sselliwerstow.
Astrakhan	30.15	765.9	30.07	763.8	29.7	— 1.3	86	W	20	9			1s					Light clouds	Capt. Wisganow.
Barnaul	29.40	746.7	29.93	760.3	17.6	— 8.0	91	SW	9	4			2						Meteorological Obs.
Dorpat	29.67	753.5	29.92	759.9	34.9	1.6	98	WSW	11	5			10n					Light rain	Prof. Dr. Weihrauch.
Ekaterinburg	28.28	718.3	29.28	743.8	17.1	— 8.3	73	NW	9	4			9					Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	29.29	743.9	29.57	751.0	28.6	— 1.9	78	WSW	13	6			8						Physical Cabinet.
Kertch	30.38	771.7	30.40	772.2	32.9	0.5	100	WSW	7	3			10						Lagorio.
Kieff	29.59	751.6	30.26	768.6	30.9	— 0.6	96	NW	2	1			10n					Light fog	Physical Cabinet.
Krotkowo*	29.26	743.2	29.74	755.5	30.6	— 0.8	60	NW	0	0			1						Cand. Fatjanow.
Lugan	29.98	761.6	30.20	767.0	33.1	0.6	83	SW	20	9			10						Meteorological Obs.
Moscow	29.30	744.3	29.87	758.7	34.5	1.4	89	ENE	7.8	3.5			8s						Meteorological Obs.
Nertchinsk	27.98	710.8	30.68	779.3	—22.7	—30.4	77	Calm	0	0			2					Light clouds	Meteorological Obs.
Nikolaiev	30.33	770.3	30.40	772.1	29.3	— 1.5	98	W	4	2			10n					Foggy	Kurdakof.
Nukuss	29.68	753.8	29.92	760.0	36.0	2.2	85	WSW	16	7			10n			Blank	Blank		
Orenberg																			
Pekin (China)	30.24	768.0	30.41	772.4	16.2	— 8.8	94	Calm	0	0									
St. Petersburg	29.71	754.6	29.72	755.0	35.4	1.9	95	W	20	9			9n						Physical Observatory.
Tashkend	28.50	724.●	30.19	766.8	23.4	— 4.8	88	Calm	0	0			10n						Central Physical Obs.
Tiflis	28.75	730.2	30.22	767.6	38.8	3.8	42	NW	45	20			2						Teich, A. M.
Vladivostock													3cs					Light clouds	Physical Observatory.
Warsaw	29.85	758.1	30.30	769.5	32.0	0.0	98	SSE	9	4									
Wilna	29.81	757.1	30.25	768.3	36.3	2.4	94	SW	4	½			10					Foggy	Astronomical Obs.
Yeniseisk	29.67	753.7	29.99	761.8	1.0	—17.2	72	E	4	2			10					Heavy clouds	Astronomical Obs.
													0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.17	766.3	30.28	769.0	54.1	12.3	57	ENE	4.6	2.06			8					½ Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.23	767.8	30.28	769.2	60.3	15.7	54	SE	2.4	1.08		2	0	NE		0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.30	693.4			45.7	7.6	64	S	1.4	0.61		0	0			0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	28.02	711.8	30.30	769.5	51.4	10.8	58	N	0.7	0.33		0	0			0	0	Clear.	The Staff.
Murcia, Met. Obs'y	30.14	765.6	30.30	769.5	60.8	16.0	55	W	2.7	1.19		0	0			0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.35	745.6	30.26	768.6	54.7	12.6	64	SW	4.9	2.2			9			0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	763.9	30.14	765.6	69.6	20.9	89	Calm	0	0		6ck	1k	E		0.102	2.6	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.92	760.0	29.97	761.3	82.3	27.9	65	NE	1.5	0.7			1s		E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.5	30.24	768 0	61.7	16.5	56	ESE	13.2	5.9		0	5		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.09	764.2	30.18	766.5	75.6	24.2	80	E	14.9	6.67		4s	0	E		0.079	2.00	Clear	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.24	742.7	29.28	743.7	35.2	1.8	.....	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Umea	29.30	744.1	29.35	745.4	37.4	3.0	83	S	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.34	745.2	29.39	746 5	40.4	8.0	62	SW	.....	.....	4	.....	2	.....	.....	0	0	.....	
Stockholm	29.65	753.2	29.83	757.7	43.2	6.2	79	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	29.80	756.9	29.95	760.7	38.8	3.8	80	SW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.1	29.74	755.3	40.1	4.5	90	WSW	18.3	8.2	.....	.....	10	.....	.....	0	0	Light fog....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 58', W. 79° 32'	.....	.....	29.94‡	760.4‡	76.3	24.6	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.89	733.7	30.40	772.2	25.8	— 3.7	99	NNW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	29.62	727.0	30.36	771.2	25.2	— 3.8	80	W	.....	.....	1	.....	1	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +6.8 mm.; Thermometer, —6.3 Cent. Relative Humidity, +24 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	30.30	772.0	39.7	4.3	70	ENE	11	5.0	.....	.....	8	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.09	764.3	56.8	13.8	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.13	765.4	57.9	14.4	57	N	.....	.....	1	.....	0	.....	.....	6	0	.....	Prof. C. V. A. van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	29.97	761.2	29.98	761.5	11	—11.7	.....	Calm	0	0	.....	0	0	.....	.....	0.90	22.9	Clear.	Hon. J. Ferguson.
Chatham, N. B	30.05	763.3	30.12	765.0	8.0	—15.6	87	W	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear.	G. A. Blair.
Charlottetown, P. E. Island	29.94	761.7	30.04	763.0	11.5	—11.4	94	W	9	4.0	.....	0	0	.....	.....	0.20	5.1	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	29.91	759.7	30.12	765.0	18.8	— 7.3	84	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.85	758.2	30.03	762.7	11.0	—11.7	.....	W	.....	.....	1	0	5ks	.....	.....	0	0	Fair.....	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	15.2	— 9.3	82	NW	24	10.7	.....	.....	10s	.....	.....	0.10	2.5	Clearing....	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.16	766.1	— 7.1	—21.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.28	743.7	30.28	769.1	—30.4	—34.7	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.96	735.6	30.15	765.8	15.0	— 9.4	100	SW	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	James Grant.
Halifax, N. S	30.00	762.0	30.14	765.5	20.2	— 6.6	96	W	10	4.5	.....	0	2ks	.....	.....	Inap.	Inap.	Fair.....	A. Allison.
Hamilton, Ontario	29.79	756.7	30.20	767.1	16.5	— 8.6	85	W	.....	.....	1	10cs	0	W	.....	0	0	Cloudy.....	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.81	757.2	30.17	766.3	21.1	— 6.1	91	W	6	2.7	.....	.....	10n	.....	.....	0.05	1.3	Light snow..	S. Woods, M. A.
Little Glace Bay, N. S	30.00	762.0	30.04	763.0	15.2	— 9.3	90	NW	7	3.1	.....	6k	0	NW	.....	0	0	Fair.....	C. H. Rigby.
Montreal, Quebec	29.93	760.2	30.15	765.8	15.1	— 9.4	82	SW	15	6.7	.....	9ck	1s	NW	.....	0	0	Fair.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.83	757.7	29.87	758.7	—16.6	—27.0	94	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	J. R. Nelson.
Norwood, Ontario	29.29	744.0	30.04	763.0	14.2	— 9.9	89	W	12	5.4	.....	.....	9ks	.....	.....	0	0	Fair...	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.28	743.7	30.02	762.5	19.1	— 7.2	92	S	20	8.9	.....	.....	10n	.....	.....	0.28	7.1	Light snow..	Rev. R. Mosley.
Peterboro, Ontario	29.36	745.7	30.18	766.6	13.2	—10.4	92	S	.....	.....	1	.....	8n	.....	.....	0	0	Fine	J. F. Jeffers, M. A.
Port Dover, Ontario	29.44	747.8	30.18	766.6	21.0	— 6.1	100	SW	25	10.7	.....	.....	10n	.....	.....	0.40	10.2	Light snow..	H. Morgan.
Port Stanley, Ontario	29.48	748.8	30.16	766.1	23.7	— 4.6	86	W	24	10.7	.....	.....	10k	.....	.....	Inap.	Inap.	Cloudy.....	M. Payne.
Quebec, Quebec	29.78	756.4	30.14	765.5	8.0	—13.3	100	SW	.....	.....	1	.....	10n	.....	.....	0.05	1.3	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.53	750.0	30.08	762.7	9 0	—12.5	79	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.....	W. H. McIntyre.
St. John, N. B	30.02	762.5	30.20	767.1	11	—11.7	100	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.28	743.7	30.05	763.3	17.0	— 8.3	97	S	18	8.0	.....	.....	10s	.....	.....	0.19	4.8	Snowing.....	Mrs. K. Stewart.
Stratford, Ontario	28.74	730.0	30.13	765.3	13.3	—10.4	93	SW	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A
Sydney, C. B	29.96	761.0	30.00	762.0	14.6	— 9.7	80	W	10	4.5	.....	1c	1ks	NW	.....	0	0	Fair...	T. C. Hill, C. E.
Toronto, Ontario	29.77	756.1	30.19	766.8	15.6	— 9.1	83	W	8	3.6	.....	0	7ks	.....	.....	Inap.	Inap.	Cloudy.....	Magnetic Observatory
Windsor, N. S	30.00	762.0	30.10	764.5	24.0	— 4.4	93	W	11	4.9	.....	6k	0	.....	.....	0	0	Fair...	Prof. John E. Oram, M. A
Woodstock, Ontario	29.00	736.6	30.15	765.8	19.1	— 7.2	86	S	18	8.0	.....	.....	10ks	.....	W	0	0	Cloudy.....	Professor Wolverton.
Yarmouth, N. S	30.14	765.5	30.21	767.3	25.0	— 3.9	79	NW	12	5.4	.....	0	7s	.....	.....	0.10	2.5	Fair...	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.47	748.5	29.73	755.1	18	— 7.8	84	NW	.....	.....	.....	.....	10	.....	.....	0.05	1.3	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.79	756.7	17.6	— 8.0	.....	NW	.....	.....	6	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the SECRETARY OF WAR.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.06	763.5	30.32	770.1	9	—12.8	100	SW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.	
Alpena, Michigan	29.30	744.2	29.99	761.7	15	— 9.4	82	SW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.16	740.7	30.38	771.6	32	0.0	50	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Atlantic City, New Jersey	30.41	772.4	30.42	772 7	20	— 6.7	85	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Augusta, Georgia	30.21	767.3	30.42	772.7	39	3.9	64	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.	
Baltimore, Maryland	30.41	772.4	30.47	773.9	21	— 6.1	71	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear.	
Barnegat, New Jersey	30.36	771.1	30.39	771.9	20	— 6.7	85	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Bismarck, Dakota	28.23	717.0	30.09	764.3	12	—11.1	80	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Boerne, Texas	28.82	732.0	30.22	767.6	35	1.7	70	N	4	1.8	.....	5k	5ks	NW	NW	0	0	Cloudy.	
Boise City, Idaho	27.48	698.0	30.44	773.2	35	1.7	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Boston, Massachusetts	30.14	765.5	30.30	769.6	20	— 6.7	70	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Brackettville, Texas	29.16	740.7	30.28	769.1	38	3.3	54	S	8	3.6	.....	0	8s	.....	S	0	0	Fair.	
Breckenridge, Minnesota	29.14	740.1	30.31	769.9	—18	—27.8	100	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.18	766.6	30.23	767.8	47	8.3	100	N	8	3.6	.....	.....	10n	.....	Calm	0.24	6.1	Light rain.	
Buffalo, New York	29.45	748.0	30.20	767.1	19	— 7.2	85	SW	14	6.3	.....	.....	10n	.....	SW	0.14	3.6	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.90	759.4	30.21	767.3	19	— 7.2	85	SW	8	3.6	.....	5ck	5ks	W	SW	0.02	0.5	Cloudy.	
Cairo, Illinois	29.94	760.5	30.35	770.9	32	0.0	69	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	27.68	703.1	30.25	768.3	27	— 2.8	78	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.41	772.4	30.42	772.7	42	5.6	66	NW	4	1.8	.....	8cs	0	SW	.....	0	0	Cloudy.	
Cape Henry, Virginia	30.40	772.1	30.42	772.7	34	1.1	70	N	16	7.2	.....	2cs	8s	Calm	NW	0	0	Cloudy.	
Cape Lookout, N. Carolina	30.41	772.4	30.43	772.9	42	5.6	66	NW	4	1.8	.....	8cs	0	SW	.....	0	0	Fair.	
Cape May, New Jersey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Castroville, Texas	29.53	750.0	30.28	769.1	37	2.8	81	NW	4	1.8	.....	10c	0	Calm	.....	0	0	Cloudy.	
Cedar Keys, Florida	30.27	768.8	30.30	769.6	52	11.1	60	NE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Charleston, South Carolina	30.34	770.6	30.40	772.1	44	6.7	84	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.51	749.5	30.38	771.6	32	0.0	59	NE	3	1.3	.....	10cs	Sm'e	SW	Calm	0	0	Cloudy.	
Chattanooga, Tennessee	29.55	750.6	30.41	772.4	28	— 2.2	77	NE	2	0.9	.....	2cs	Sm'e	Calm	Calm	0	0	Fair.	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	4	—15.6	74	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Chicago, Illinois	29.37	746.0	30.09	764.3	28	— 2.2	77	SW	7	3.1	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Cincinnati, Ohio	29 63	752.6	30.34	770.6	21	— 6.1	86	SE	7	3.1	.....	0	8s	.....	Calm	Inap.	Inap.	Fair.	
Cleveland, Ohio	29.47	748.5	30.26	768.6	19	— 7.2	91	S	12	5.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy.	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.40	746.7	30.32	770.1	14	—10.0	82	S	6	2.7	.....	8ck	Sm'e	S	Calm	0	0	Fair.	
Concho, Texas	28.36	720.3	30.18	766.6	25	— 3.9	87	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.86	758.4	30.36	771.1	37	2.8	71	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair.	
Davenport, Iowa	29.48	748.8	30.16	766.1	24	— 4.4	87	W	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.	
Dayton, Washington T'y	.....	.....	.....	.....	29	— 1.7	83	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Deadwood, Dakota	25.37	644.4	.....	.....	17	— 8.3	67	W	4	1.8	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
Decatur, Texas	29.19	741.4	30.45	773.4	31	— 0.6	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.49	749.0	30.34	770.6	29	— 1.7	78	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.88	631.9	30.10	764.5	7	—13.9	77	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.27	743.4	30.21	767.3	22	— 5.6	86	W	3	1.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.	
Detroit, Michigan	29.43	747.5	30.15	765.8	17	— 8.3	83	SW	11	4.9	.....	.....	10s	.....	SW	0.10	2.5	Cloudy.	
Dodge City, Kansas	27.67	702.8	30.18	766.6	16	— 8.9	66	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.39	746.5	30.14	765.5	19	— 7.2	69	W	9	4.0	.....	.....	10ks	.....	Calm	0.01	0.3	Cloudy.	
Duluth, Minnesota	29.41	747.0	30.18	766.6	— 8	—22.2	58	SW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Eagle Pass, Texas	29.53	750.0	30.30	769.6	41	5.0	74	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Eastport, Maine	30.09	764.3	30.16	766.1	15	— 9.4	65	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	46	7.8	92	NW	.....	.....	1	.....	10s	.....	Calm	0.02	0.5	Cloudy.	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.49	749.0	30.26	768.6	19	— 7.2	85	S	14	6.3	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy.	
Escanaba, Michigan	29.32	744.7	30.03	762.7	9	—12.8	67	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy.	
Florence, Arizona	28.74	730.0	30.34	770.6	27	— 2.8	76	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	25	— 3.9	75	E	1	0.4	.....	1cs	0	Calm	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.95	709.9	29.89	759.2	20	— 6.7	85	SW	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.	
Fort Custer, Montana	26.91	683.5	.....	.....	15	— 9.4	83	NW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear.	
Fort Davis, Texas	25.29	642.4	30.25	768.3	14	—10 0	82	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Fort Gibson, Indian Ter	29.72	754.9	30.30	769.6	28	— 3.3	63	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.19	639.8	29.99	761.7	20	— 6.7	56	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	29.02	737 1	30.40	772.1	24	— 4.4	74	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.35	694.7	.....	.....	15	— 9.4	61	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Fort McKavett, Texas	27.99	710.9	30.08	764.0	19	— 7.2	69	W	4	1.8	.....	9ck	0	W	.....	Inap.	Inap.	Cloudy.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.04	737.6	30.25	768.3	22	— 5.6	72	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	28.19	716.0	.....	.....	8	—13.3	89	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.	
Fort Verde, Arizona	.....	.....	.....	.....	20	— 6.7	41	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.48	723.4	30.10	764 5	42	5.6	58	N	3	1.3	.....	8cs	0	Calm	.....	Inap.	Inap.	Fair.	
Galveston, Texas	30.28	769.1	30.32	770.1	46	7.8	54	NE	8	3.6	.....	10cs	0	NE	.....	0	0	Cloudy.	
Graham, Texas	29.25	742.9	30.41	772.4	20	— 6.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.34	745.2	30.02	762.5	30	— 1.1	89	W	24	10.7	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.35	745.5	30.36	771.1	26	— 3.3	88	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.37	746.0	30.21	767.3	22	— 5.6	72	SE	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy.	
Indianola, Texas	30.31	769.9	30.34	770.6	44	6.7	76	N	17	7.6	.....	.....	10s	.....	N	0.04	1.0	Cloudy.	
Jacksboro, Texas	29.07	738.4	30.27	768.8	35	1.7	70	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.32	770.1	30.34	770.6	50	10.0	65	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Keokuk, Iowa	29.51	749.5	30.17	766.3	26	— 3.3	75	NW	6	2.7	.....	.....	10s	.....	W	0.03	0.8	Cloudy.	
Key West, Florida	30.13	765.3	30.16	766.1	67	19.4	89	NE	6	2.7	.....	5k	0	E	.....	0	0	Fair.	
Kittyhawk, North Carolina	30.40	772.1	30.42	772.7	36	2.2	71	NW	7	3.1	.....	8ck	0	W	.....	0	0	Fair.	
Knoxville, Tennessee	29.36	745.7	30.46	773.7	23	— 5.0	93	SW	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy.	
La Crosse, Wisconsin	29.32	744.7	30.10	764.5	15	— 9.4	82	W	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.	
La Mesilla, New Mexico	26.20	665.5	30.35	770.9	23	— 5.0	86	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Cloudy.	
Laredo, Texas	29.84	757 9	30.19	766.8	46	7.8	81	NW	6	2.7	.....	5k	0	W	.....	0	0	Fair.	
Leavenworth, Kansas	29.39	746.5	30.30	769.6	26	— 3.3	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	26	— 3.3	88	.....	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair.	
Little Rock, Arkansas	29.99	761.7	30.38	771.6	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.93	760.2	30.29	769.4	40.9	4.4	60	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.68	753.9	30.27	768.8	27	— 2.8	68	SE	5	2.2	.....	2k	5s	SW	Calm	0	0	Fair.	
Lynchburg, Virginia	29.71	754.6	30.46	773.7	20	— 6.7	85	NW	1	0.4	.....	2cs	0	SW	.....	0	0	Fair.	
Madison, Wisconsin	28.99	736.3	30.01	762.5	23	— 5.0	86	NW	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Marquette, Michigan	29.25	742.9	30.02	762.5	7	—13.9	75	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Mason, Texas	28.63	727.2	30.54	775.7	26	— 3.3	75	NW	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair.	
Memphis, Tennessee	30.00	762.0	30.36	771.1	31	— 0.6	79	S	6	2 7	.....	0	5s	.....	Calm	0	0	Fair.	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.29	744.0	30.07	763.8	21	— 6.1	71	NW	12	5.4	.....	.....	10c	.....	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.30	769.6	30.34	770.6	43	6.1	59	NE	9	4.0	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Montgomery, Alabama	30.15	765.8	30.40	772.1	41	5.0	67	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.34	745.2	30.46	773.7	5	—15.0	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	0	—17.8	100	NW	42	18.8	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.79	756.7	30.39	771.9	14	—10.0	64	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New Haven, Connecticut	30.20	767.1	30.33	770.4	17	— 8.3	83	W	2	0.9	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Fair	
New London, Connecticut	30.25	768.3	30.30	769.6	15	— 9.4	82	N	4	1.8	.....	1ck	Fog	Calm	N	0	0	Clear	
New Orleans, Louisiana	30.26	768.6	30.32	770.1	49	9.4	63	NE	8	3.6	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Newport, Rhode Island	30.23	767.8	30.29	769.4	29	— 1.7	67	NW	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	36	2.2	61	NW	.....	.....	1	8ck	0	W	.....	.....	.....	Cloudy	
New York, New York	30.16	766.1	30.36	771.1	19	— 7.2	69	W	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.36	771 1	30.42	772.7	33	0.6	70	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.27	692.8	30.08	764.0	12	—11.1	71	NW	7	3.1	.....	8ck	0	NW	.....	0	0	Fair	
Olympia, Washington Ter	30.43	772.9	30.47	773.9	33.0	0.6	100	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	29.04	737.6	30.22	767.6	20	— 6.7	70	W	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Oswego, New York	29.90	759.4	30.25	768.3	25	— 3.9	75	S	10	4.5	.....	0	5s	.....	SW	0.07	1.8	Fair	
Pembina, Dakota	29.26	743.2	30.25	768.3	—30	—34.4	100	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.32	770.1	30.36	771.1	45	7.2	46	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	30.36	771.1	30.42	772.7	20	— 6.7	70	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	29.17	740.9	31.12	790.4	31	— 0.6	48	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.40	442.0	29.61	752.1	—20	—28.9	27	SW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ploche, Nevada	24.19	614.4	29.96	761.0	21	— 6.1	57	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.50	749.3	30.39	771.9	13	—10.6	81	SW	13	5.8	.....	2ck	0	W	.....	0	0	Fair	
Port Huron, Michigan	29.40	746.7	30.12	765.0	17.5	— 8.1	75	SW	16	7.2	.....	.....	10s	.....	SW	0.06	1.5	Cloudy	
Portland, Maine	30.15	765.8	30.21	767.3	18	— 7.8	68	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.42	772.7	30.50	774.7	35.5	1.9	90	S	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.86	631.9	30.24	768.1	1	—17.2	72	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	60	15.6	77	NE	13	5.8	.....	8cs	0	SW	.....	0	0	Fair	
Red Bluff, California	29.94	760.5	30.31	769.9	41.5	5.3	49	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.12	765.0	30.35	770.0	47	8.3	62	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.54	750.3	30.21	767.3	15	— 9.4	82	SW	8	3.6	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Roseburg, Oregon	29.90	759.4	30.52	775.2	31.5	— 0.3	80	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.20	767.1	30.28	769.1	38	3.3	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.65	753.1	30.26	768.6	28	— 2.2	77	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.25	742.9	30.17	766.3	0	—17.8	59	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Salt Lake City, Utah	25.93	658.6	30.26	768.6	15	— 9.4	48	SE	4	1.8	.....	0	0	.....	.....	0.14	3.6	Clear	
San Antonio, Texas	29.64	752.8	30.26	768.6	46	4.4	73	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.22	767.6	30.30	769.6	42	5.6	58	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.50	749.3	30.23	767.8	22	— 5.6	72	SW	16	7.2	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.34	770.6	30.38	771.6	19	— 7.2	69	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.22	767.6	30.28	769.1	44	6.7	96	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	9	—12.8	36	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.31	769.9	30.41	772.4	43	6.1	59	NE	4	1.8	.....	2ck	8s	SW	W	0	0	Cloudy	
Shreveport, Louisiana	30.11	764.8	30.34	770.6	33	0.6	89	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.37	771.4	30.41	772.4	38	3.3	63	NW	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Socorro, New Mexico	25.56	649.2	29.62	752.3	12	—11.1	61	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.51	749.5	30.22	767.6	31	— 0.6	79	W	11	4.9	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Springfield, Massachusetts	30.18	766.4	30.32	770.1	10	—12.2	79	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Stockton, Texas	27.16	689.8	30.16	766.1	26	— 3.3	28	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.30	769.6	30.35	771.1	24	— 4.4	61	W	32	14.3	.....	Haze	Haze	.....	.....	0	0	Hazy	
Toledo, Ohio	29.45	748.0	30.18	766.6	21	— 6.1	71	SE	14	6.3	.....	.....	10s	.....	SW	Inap.	Inap.	Threatening	
Tucson, Arizona	27.72	704.1	30.27	768.8	26	— 3.3	76	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.04	763.0	30.58	776.7	23.5	— 4.7	86	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.41	747.0	30.27	768.8	36	2.2	80	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Vicksburg, Mississippi	30.09	764.3	30.36	771.1	38	3.3	63	SE	3	1.3	.....	0	Sm'e	.....	.....	0	0	Smoky	
Virginia City, Montana	24.36	618.7	29.84	757.9	12	—11.1	80	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Visalia, California	29.89	759.2	30.28	769.1	35	1.7	85	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.34	770.6	30.47	773.9	15	— 9.4	82	NW	3	1.3	.....	0	2s;fg	.....	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	25	—3.9	87	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.33	770.4	30.42	772.7	37	2.8	62	NW	4	1.8	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.93	658.6	30.29	769.4	19	— 7.2	69	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.24	768.1	30.28	769.1	28	— 2.2	88	N	1	0.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.93	734.8	30.37	771.4	8	—13.3	78	W	7	3.1	.....	5ck	0	NW	.....	0.01	0.3	Fair	
Yuma, Arizona	30.14	765.5	30.30	769.6	34	1.1	61	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.04	763.0	30.09	764.3	72	22.2	85	Calm	0	0	.....	8ck;cs	0	Calm	.....	0.09	2.3	Clearing	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	74	23.3	82	Calm	0	0	.....	2c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.99	761.7	30.07	763.8	75.5	24.2	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	30.00	762.0	81	27.2	74	E	.....	.....	2	4c	5k	NE	.....	0	0	Fair	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.38	746.2	29.9	760.2	79	26.1	85	N	.....	.....	1	.....	2ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.11	764.8	30.13	765.3	75	23.9	76	N	3.6	1.6	.....	0	0	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.96	761.0	30.01	762.2	—34.0	—36.7	.....	W	17	7.6	.....	0	8s	.....	W	0	0	Threatening	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,833 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,07 8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1.916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549(?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1 670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.35‡	770.9‡	.....	.....	46	7.8	84	NE	6	2.7	.....	.....	10	.....	SE	1.16	29.5	.....	.....	Cloudy.....	
Navy Yard, Portsmouth, N.H.	30.04‡	763.0‡	.....	.....	22	— 5.6	58	W	2	0.9	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	30.43‡	772.9‡	.....	.....	39.5	4.2	43	NNE	.....	.....	3	.....	8k	.....	W	0	0	.....	.....	Cloudy.....	
Adams, N. 34° 33′, W. 121° 30′	30.39‡	771.9‡	.....	.....	53	11.7	100	NW	.....	.....	1	.....	2	.....	NW	.....	.....	Smooth	SE	Fair.....	
Alaska, S. 15° 30′ W. 75° 20′	29.88‡	758.9‡	.....	.....	69	20.6	95	NNE	.....	.....	2	.....	.....	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Colorado, New York, N. Y.	30.27‡	768.8‡	.....	.....	19	— 7.2	.....	WSW	14	6.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, As inwall, Panama	29.92‡	760.0‡	.....	.....	77	25.0	91	NE	.....	.....	1	.....	3	.....	NNE	.....	.....	.....	.....	Clear.....	
Enterprise. N. 40° 16′, E. 13° 18′	30.23‡	767.8‡	.....	.....	54	12.2	74	ENE	.....	.....	3	.....	5	.....	ENE	.....	.....	Mod'ate	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.44‡	773.2‡	.....	.....	34	1.1	70	NE	6	2.7	.....	.....	8	.....	W	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.27‡	768.8‡	.....	.....	42	5.6	91	NW	0	0	.....	.....	1	.....	NW	0	0	.....	.....	Foggy.....	
Kearsarge, N. 2° 22′, W. 84° 07′	30.10‡	764.5‡	.....	.....	76	24.4	91	ENE	.....	.....	3–4	.....	5	.....	NE	.....	.....	Smooth	.....	Fair.....	
Lackawana, Navy Yard, Mare I'd., Cal.	30.30‡	769.6‡	.....	.....	45	7.2	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Marion, Rio de Janeiro, Brazil	29.82‡	757.4‡	.....	.....	80	26.7	82	NNW	.....	.....	1	.....	8	.....	Calm	Light	Light	.....	.....	Cloudy.....	
Michigan, Erie, Pa.	30.19‡	766.8‡	.....	.....	24	— 4.4	74	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China	30.28‡	769.1‡	.....	.....	39	3.9	91	N	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Raining.....	
New Hampshire, Port Royal, S. C.	30.40‡	772.1‡	.....	.....	45	7.2	61	NNE	12	5.4	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Nipsic. N. 10° 50′, W. 62° 05′	30.02‡	762.5‡	.....	.....	77	25.0	73	ENE	.....	.....	4	.....	2	.....	ENE	.....	.....	Long rough	NE	Squally.....	
Onward, Callao, Peru †.	29.91‡	759.7‡	.....	.....	71.5	21.9	90	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Fair.....	
Palos, Tientsin, China	30.40‡	772.1‡	.....	.....	30	— 1.1	??	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.	30.45‡	773.4‡	.....	.....	16	— 8.9	83	W	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Callao, Peru	29.88‡	758.9‡	.....	.....	70	21.1	95	ENE	.....	.....	0–1	.....	2	.....	.....	.....	.....	Smooth	.....	Foggy.....	
Powhatan, Navy Yard, Norfolk, Va.	30.41‡	772.4‡	.....	.....	38	3.3	63	NE	.....	.....	3	.....	8	.....	W	0	0	.....	.....	Fair.....	
Quinnebaug, Leghorn, Italy	30.25‡	768.3‡	.....	.....	62	16.7	41	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, N. 38° 05′, W. 129° 50′	30.38‡	771.6‡	.....	.....	49	9.4	93	NNE	.....	.....	5	.....	10	.....	NE	.....	.....	Mod'ate	NE	Misty.....	
Richmond, Hong-Kong, China	30.06‡	763.5‡	.....	.....	61	16.1	100	E	.....	.....	3	.....	10	.....	E	0	0	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas	30.46‡	773.7‡	.....	.....	47	8.3	100	NNW	3	1.3	.....	.....	10	.....	N	0.45	11.4	.....	.....	Cloudy.....	
Santee. Annapolis, Md.	30.42‡	772.7‡	.....	.....	23	— 5.0	.....	NW	.....	.....	2	.....	2	.....	S	0	0	.....	.....	Clear.....	
Shenandoah, Montevideo, Uruguay	29.76‡	755.9‡	.....	.....	80	26.7	74	NNE	.....	.....	2	.....	5	.....	NNE	.....	.....	Mod'ate	NNE	Fair.....	
St. Louis, League Island, Pa.	30.39‡	771.9‡	.....	.....	19	— 7.2	.....	W	10	4.5	.....	.....	2	.....	W	0	0	.....	.....	Clear.....	
Swatara, N. 35° 57′, W. 29° 45′	30.23‡	767.8‡	.....	.....	68	20.0	70	E	.....	.....	2	.....	0	.....	.....	.....	.....	Long	NW	Clear.....	
Tennessee, Norfolk, Va.	30.46‡	773.7‡	.....	.....	34	1.1	70	NNE	5.2	2.5	.....	.....	6	.....	Calm	0	0	.....	.....	D. clouds.....	
Trenton, Toulon, France	30.30‡	769.6‡	.....	.....	59	15.0	48	S	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, N. 13° 10′, W. 87° 51′	29.94‡	760.5‡	.....	.....	79	26.1	73	NE	.....	.....	1	.....	2	.....	Calm	0	0	Long	S	Clear.....	
Wabash, Boston, Mass.	30.29‡	769.4‡	.....	.....	19	— 7.2	69	W	1	0.4	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Wachusett, Montevideo, Uruguay	30.33‡	770.4‡	.....	.....	79	26.1	74	NE	.....	.....	4	.....	8	.....	NE	.....	.....	Smooth	NE	Fair.....	
Wyoming, Naples, Italy	30.20‡	767.1‡	.....	.....	55	12.8	53	SSW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	SW	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian, N. 50° 39′, W. 42° 15′	29.18‡	739.9‡	40	4.4	73	W			7		10		W	Blank	Blank	High Con fused	Var.	Squally	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 42° 18′, W. 65° 35′	30.18‡	766.6‡	32	0.0		WNW			4		10		SW			Long	SSW	Cloudy	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent, N. 39° 23′, W. 70° 46′	30.38‡	771.6‡	44	6.7	76	W			7		7		W	0	0	Mod'ate	NW	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 32° 04′, W. 119° 57′ †	30.46‡	774.2‡				Calm			0		0					Smooth	WNW	Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 31′, E. 152° 05′ †	30.16‡	766.1‡	55	12.8	87	NNW			6		5		NNW			Mod'ate	NNW	Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 48° 00′, W. 159° 40′ †	30.80‡	774.7‡	50	10.0		W			2		ks		W	Slight	Slight	Mod'ate	W	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 33° 44′, W. 118° 22′ †	30.30‡	769.0‡	55	12.8		Calm			0		0			0	0	Mod'ate	W	Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Anerold. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 21° 47′, W. 108° 47′...†	30.02‡	762.5‡	68	20.0	90	NNW	.....	.....	6	.....	2	.....	NNW	0	0	Heavy	NE	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Polemann.
S. S. City of Chester, E. Polemann. ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. City of Panama, M. Connolly, N. 36° 12′, W. 122° 05′.....	30.23‡	767.2‡	60	16.0	.....	Var.	.....	.....	2	.....	8	.....	SW	0	0	Smooth	W	Cloudy.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. City of Tokio, J. Maury Hong Kong, China.....†	29.98‡	761.5‡	64	17.8	83	ENE	.....	.....	5	.....	10	.....	NE	0	0	Smooth	.....	Misty.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. Dakota, D. E. Griffiths Utsalady, Washington Ter.	30.47‡	773.9‡	42	5.6	.....	E	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Drizzling....	D. E. Griffiths.
S. S. Granada, J. M. Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. Zalandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 41° 31′, W. 56° 07′ ....†	30.14‡	765.5‡	50	10.0	.....	WNW	8	3.6	.....	.....	5	.....	WNW	Blank	Blank	High	WNW	Cloudy.....	J. Farmer & W. Apetan.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 20′, E. 66° 30′.....*	29.67‡	758.7‡	63	17.2	.....	NNW	.....	.....	6	.....	10	.....	NW	.....	.....	Mod'ate	NNW	Rainy	B. F. Woodbury.
Brigantine George, W. H. Champlin, N. 18° 30′ W. 67° 30′.....	30.24‡	768.1‡	76	24.4	.....	E	.....	.....	5	.....	8	.....	E	0	0	Rough	E	Fair.....	.....
Iron Cross, W. Randall, N. 48° 00′, W. 20° 10′..	30.12‡	765.0‡	51	10.6	72	SSW	.....	.....	3	.....	7	.....	SSW	0	0	Long	WNW	Misty.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

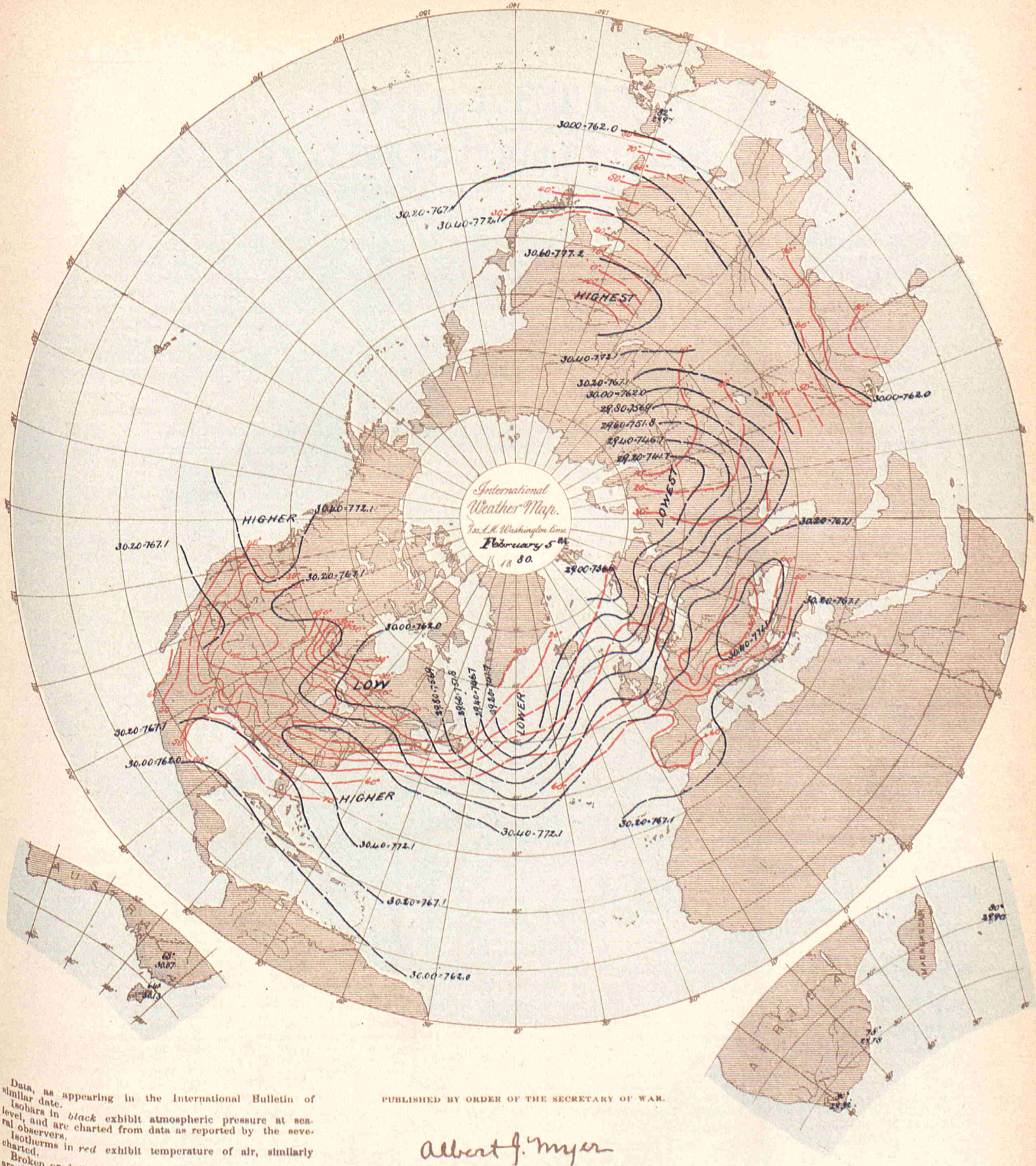
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 6, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.17	766.3				NE			3		2			0	0	Fair	
Nemours			30.21	767.3	60.1	15.6	78	NW			2		2			0	0	Fair	Kesxuche.
Algiers			30.17	766.4	66.1	18.4	83	WNW			3		4			0.126	3.2	Cloudy	Tourilliere.
La Calle			30.11	764.9	68.8	14.9	78	NW			3		5			0.059	1.5	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.03	762.7															Gau.
Saida			30.15	765.9															Herbin.
Tebessa			30.13	765.3	45.7	6.5	82	N			3		10			0.028	0.7	Covered	Watrin.
Geriville																			Brugnlaux.
Laghouat			30.17	766.2	52.9	11.6	50	NW			2		10			0	0	Covered	Bertrand.
Biskra			30.07	763.7	64.0	17.8	68	NNE			1		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.73	755.2	30.34	770.7	11.7	—11.3	97	S			1		10			0.067	1.7	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.44	747.7	30.26	768.5	25.5	— 3.6	78	SW	4.9	2.2			0			0	0		Dr. Wierzbicki.
Eperies	29.32	744.8	30.29	769.4	14.4	— 9.8	100						10			0	0	Foggy	Julius Mikolik.
Gratz	28.97	735.7	30.31	769.9	23.4	— 4.8	79	S			2		0			0	0		Andreas Rospini.
Hermannstadt	28.76	730.5	30.30	769.6	23.0	— 5.0	88	ESE			1		0			0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.84	732.4	30.28	769.2	21.4	— 5.9	95	Calm			0		0			0	0		The Staff.
Lemberg	29.09	738.8	30.12	765.1	34.5	1.4	74	NW			1		0			0	0		Dr. T. Stanecki.
Pola	29.09	761.8	30.11	764.8	43.7	6.5	64	WNW			1		6			0	0		I.R.Hydrographic Office.
Szathmar	29.86	758.4	30.35	770.9	2.8	-16 2	71	SW			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	30.02	762.6	30.33	770.3	18.0	— 7.8		NW			1		10			0	0		Karl Stancel.
Trieste	30.02	762.5	30.12	765.1	52.5	11.4	23	NE			3		3			0	0	Almost clear	P. Busin.
Vienna	29.56	750.7	30.29	769.4	18.1	— 7.7	100	Calm			0		0			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	29.86	758.4	30.07	763.6	46.9	8.3	68	SSW			2		0			0	0		Royal Observatory.
Furnes	30.00	761.9	30.02	762.5	45.1	7.3	79	SW			2		10			0.039	1.0		M. E. de Cae.
Maeseyck	29.98	761.5	30.11	764.7	41.9	5.5	78	SSW			2		0?					Light rain?	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington D C as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.46	748.3	29.56	750.8	41.5	5.3	.....	S	20	8.9	.....	.....	7	.....	.....	0.060	1.52	D. clouds	W. Boswell.
Ardrossan	29.53	750.0	29.64	750.3	42	5.6	.....	SSW	.....	.....	6	.....	5	.....	.....	.....	.....	Raining	G.Carrick.
Armagh, (Observatory)	29.27	743.4	29.51	749.5	43.4	6.3	.....	S	26	11.6	.....	.....	10	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.71	754.6	43.6	6.4	.....	S	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.17	740.9	29.69	754 1	41.9	5.5	.....	S	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.70	754.4	42.5	5.8	91	SW	.....	.....	3	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.98	761.5	30.01	762.2	77.5	25.3	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.78	756.4	29.87	758.7	45.0	7.2	.....	S	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.84	757.9	46.0	7.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.83	757 7	29.96	761.0	44.1	6.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	F. Magauran, Q. M. S'gt., R.E
Donaghadee	29.50	749.3	29.55	750 6	45	7.2	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.92	760.0	29.96	761.0	41	5.0	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth (Observatory)	29.61	752.1	29.84	757.9	48.2	9.0	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.40	696.0	29.62	752.3	87.5	30.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.58	751.3	29.81	757.2	86	30.0	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.38	745.0	48.5	9.2	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	30.11	764.8	30.16	766.1	57.0	13.9	.....	E	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.34	745.2	29.55	750.6	41.0	5.0	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	D. G. Maclean.
Great Yarmouth	29.90	759.4	29.90	759.4	43	6.1	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.72	754.9	29.90	759.4	45.4	7.4	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.69	754.1	29.92	760.0	46.5	8.1	.....	SSW	.....	.....	2	.....	8	.....	.....	Blank	Blank	D clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.03	762.7	30.15	765.8	50	10.0	.....	WNW	.....	.....	6	.....	4k	.....	.....	0.03	0.8	Fair	M. P. Moyle.
Holyhead	29.59	751.6	29.67	753.6	44	6.7	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.68	753.9	29.97	761.2	45.1	7 3	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew (Observatory)	29.86	758.4	29.90	759.4	44.8	7.1	.....	SSW	14	6.3	.....	.....	10	.....	.....	.....	.....	Drizzling	The Met'g'l Office.
Leicester (Museum)	29.53	750.0	29.79	756.7	45.8	7.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.84	757.9	55.2	12.9	.....	NE	.....	.....	4	.....	10kn	.....	.....	.....	.....	Showery	A. King.
Nairn	29.29	744.0	29.38	746.2	43	6.1	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.17	766.3	71.5	12.9	.....	SW	.....	.....	.....	.....	9	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.59	751.6	29.78	756.4	46.3	7.9	.....	SSW	.....	.....	4	.....	10kd	.....	S	0.071	1.81	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.25	742.9	29.78	756.4	44.2	6.8	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.62	752.3	29.87	758.7	47	8.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	46.0	7.8	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	29.48	748.8	29.66	750.8	49	9.4	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	29.59	751.6	29.76	755.9	45	7.2	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.36	745.7	41.2	5.1	.....	S	40	17.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.05	763.3	30.12	765.0	46.0	7.8	.....	NE	.....	.....	1	.....	0	.....	.....	Blank	Blank	Blue sky	Serg't W. H. Lyne.
Sheffield	29.50	749.3	29.78	756.4	45.5	7.5	.....	SSW	.....	.....	2	.....	10	.....	.....	0.04	1.0	Overcast	W. F. Cooper.
Silloth Rectory	29.62	752.3	29.65	753.1	42.5	5.8	93	SW	.....	.....	4	.....	9	.....	.....	0.162	4.11	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.69	754.1	42.1	5.6	.....	S	17	7.6	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Straffield, Turgiss	29.68	753.9	29.50	759.4	45.8	7.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.78	756.4	29.84	757.9	49	9.4	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	29.39	746.5	29.42	747.3	49.9	9.9	.....	S	49	21.9	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.88	758.9	29.92	760.0	77.5	25.3	70	S	20.8	9.3	.....	1	3k;ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	78	25.6	.....	SE	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.02	762.5	72.0	22.2	69	S	.....	.....	1	.....	10k	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.60	751.8	41.9	5.5	.....	NE	.....	.....	1	.....	10ks	SW	.....	0.03	0.8	Overcast	C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.99	761.7	80.0	26.7	68	E	18 0	8.0	.....	1	5	.....	ENE	0.09	2.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.89	759.2	29.98	761.5	72.0	22.2	64	SE	3	1.3	.....	.....	0	.....	.....	0	0	Hazy	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.02	737.1	45	7.2	.....	S	.....	.....	8	.....	10	.....	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	28.85	732.8	.....	.....	.....	SW	.....	.....	8	10	10	.....	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 48° 12′ W. 42° 40′	.....	.....	29.97	761.2‡	51.8	11.0	.....	NNW	.....	.....	4	.....	10	.....	.....	Smooth	.....	Foggy	Capt. Thos. Young.
City of Cashmere, S. 31° 22′, W. 32° 30′	.....	.....	30.18‡	766.6‡	76	24.4	.....	ENE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 32° 15′. W. 48° 35′	.....	.....	30.38	771.6	66	18.9	.....	NW	.....	.....	2	.....	6	.....	.....	3	WNW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.83‡	757.7‡	74	23.3	.....	SSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell
S. S. Richmond, Lee of Long Island, Bahamas	.....	.....	30.19	766.8	77	25.0	.....	SE	.....	.....	5	.....	4	.....	.....	.....	.....	Misty	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 18° 17′ E. 73° 48′	.....	.....	30.00‡	762.0‡	79.5	26.4	.....	SE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. G. M. Dobson
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.24	666.5	29.96	761.0	58.1	14.5	91	SE			1	2c;d	0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.00	762.0	30.05	763.2	32.5	0.3	98	NW			2		10					Foggy	
Fardoe	29.98	761.4	30.00	761.9	34.7	1.5	100	S			4		10					Foggy	
Godthaab (Greenland)	29.46	748.2	29.50	749.3	2.5	—16.4	100	NNE			4		10						
Stykkisholm (Iceland)	28.34	719.7	28.38	720.8	30.9	— 0.6	96	NE			7		10					Snowing	
Thorshavn (Farde)	28.93	734.8	28.97	735.7	43.9	6.6	93	SSE			8		7						
Vestervig	29.84	758.0	29.95	760.8	34.9	1.6	100	SSE			2		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.2	30.09	764.2	45.5	7.5	71	SW			1		8		W	0.024	0.6	Foggy	Collignon, Director.
Amiens, Normal School	29.55	760.6	30.07	763.6	46.0	7.8	94	E			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.80	756.9	30.07	763.6	43.2	6.2	77	S			3		k		SW	0	0		Klein, Commandant.
Avignon, Normal School	30.03	762.7	30.11	764.7	55.4	13	29	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.59	751.5	30.10	766.1	42.3	5.7	69	S			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.80	756.9	30.08	763.9	45.1	7.3	71	S			1		8		SSW	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.28	743.8	30.22	767.6	33.8	1		NE			1		0			0	0	Clear	A. Carré, Director.
Bordeaux	29.89	759.1	30.08	764.1	56.1	13.4	40	SSE			1		2			0	0	Slightly cld'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.23	767.8	33.8	1	78	N			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.60	751.9	30.17	766.4	44.6	7	77	NNE			1		1		NNE	0	0	Clear	M. Gence, Director.
Brest, Naval Observatory	29.72	754.9	29.96	761.0	49.6	9.8	89	SW			1		10		SW	0.236	6.00	Raining	Ch. de Rermaree, Dir
Caen, Normal School	29.91	759.6	29.98	761.5	50.0	10.0	86	SSW			2		5	S	SSW	0	0	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.67	753.6	30.08	764.1	60.4	15.8	27	W			1		1		W	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.82	757.3	30.15	765.7	42.4	5.8	78	SE			1		0			0	0	Clear	Jadot, Director
Chartres, Normal School	29.50	749.2	30.08	763.9	46.8	8.2	86	SE			1		0			0	0	Clear	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.74	729.9	30.09	764.3	54.3	12.4	45	N			1		0			0	0		Alluard, Director.
Commercy, Normal School	29.29	743.9	30.19	766.8	36.7	2.6	58	E			1		0			0	0	Clear	Dr. Coullet, Director.
Commune de Gréasque*	28.98	736.2	30.13	765.2	55.6	13.1	28	NE			2		0			0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.41	746.9	30.21	767.3	36.3	2.4		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.89	759.2	30.11	764.7	50.7	10.4	84	SE			1		5		SW	0	0	Cloudy	Mouillot; Director.
Le Mans, Normal School	29.77	756.2	30.09	764.2	48.2	9	61	SSW			1		2		SW	0	0	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.27	743.4	30.21	767.3	34.7	1.5	97	WNW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	29.88	758.9	29.99	761.7	50.0	10.0	97	SSW			1					0.114	2.9	Foggy	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.55	750.6	30.20	767.1	33.6	0.9	83	ESE			1		5			0	0	Misty	Ch. André, Director.
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	29.79	756.7	30.07	763.6	57.7	14.3	6	S			1–2		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.07	738.4	30.17	766.3	34.2	1.2	78	SSE			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	24.85	631.2	30.17	766.2	36.9	2.7	50	S			2		1		W	0	0		M. Cave, for Dr. Fines.
Nice	30.08	764.0	30.11	764.9	55.4	13.0	66	ESE			2		1	SE	ESE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.89	759.2	30.10	764.5	59.5	15.3	42	NW			1		1		N	0	0	Clear	M. Boyer, Director.
Perpignan	30.00	762.0	30.11	764.7	57.7	14.3	32	SW	8.8	1.7			3	N		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.49	571.2			32.9	0.5							1		N	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.21	742.0	30.31	769.8	48.4	9.1	81	S			1		0			0	0	Clear	M. Tallien
Puy de Dome (Summ't) Obs	25.10	639.9			38.5	3.6	53	SSE			1		0			0	0		Alluard, Director.
Rochefort, Naval Obs'y	30.09	764.2	30.12	765.0	54.9	12.7	67	S			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.96	761.0	30.05	763.2	37.0	2.8	72	S			1		0			0	0	Clear	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.93	760.1	29.96	760.9	50.4	10.2	88	SSW			4		8	SW	SW	0.026	0.65	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.95	760.6	30.11	764.8	49.3	9.6	65	SSW			2				SW	0	0		E. Renou, Director.
Tarbes, Normal School	29.05	737.9	30.11	764.9	64.4	18	62	NW			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.44	747.8	30.17	766.3	52.5	11.4	70	SSE			1		2			0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	29.89	759.1	30.08	764.1	49.6	9.8	62	SE			1		5		SW	0	0	½ covered	M. de Tastes.
Versailles, Observatory	29.58	751.4	30.08	764.0	48 6	9.2	63	S			1		0			0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.45	747.9	30.20	767.1	29.3	— 1.6	90	NNW			1					0	0	Foggy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.06	763.5	30.09	764.2	74.1	23.4										0.55	14.		L'Abbé Marchésl
Paris, Montsouris Obs'y	29.83	757.6			47.5	8.6	68	S			2		0			0	0		Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.21	767.2	30.23	767 8	44.6	7.0	96	ESE	7.2	3.2			10n			0.076	1.9	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second. The rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.37	746.1	30.24	768.2	19.2	— 7.1	78	NE			6		8s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.96	761.0	30.14	765.6	36.7	2.6	55	SW			2		0			0	0		Prof. Dr. Arndt.
Breslau	29.68	753.9	30.22	767.5	37.0	2.8	51	W			2		0			0	0		Royal University Obs'y
Carlsruhe	29.75	755.6	30.20	767.0	35.2	1.8	67	S			1		0			0	0		Albert Senz.
Cassel	29.50	749.3	30.11	764.8	31.6	— 0.2	80	S			2		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.92	760.0	30.31	769.8	28.8	— 1.8	60	SSW			0		5			0	0		Physical Society.
Friedrichshafen	28.74	730.0	30.28	769.1	23.2	— 4.9	88	S			3		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	30.04	762.9	30.11	764.7	36.0	2.2	82	SW			1		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.05	763.2	30.07	763.6	34.0	1.1	94	SW			2		10			0.331	0.84		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.1	30.0	— 1.1	98	W			6		10			0	0		Prof. E. Luther.
Köslin			30.10	764.5	29.6	— 1.4		S			2		8			0	0		H. Müller.
Leipsic Observatory	29.77	756.2	30.21	767.4	36.3	2.4	55	WSW			1		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.93	760.3	30.16	766.1	35.6	2.0	64	SSE			1		0			0	0	Light fog	Dr. Assmann.
Memel	29.89	759.3	29.94	760.5	35.6	2.0	91	W			4		10n						Reinbrecht & Issermann
Munich (München)	28.83	719.6	30.21	767.2	34.2	1.2	73	N			2		1			0	0		Dr. C. Lang.
Neufahrwasser	30.05	763.3	30.07	763.7	33.6	0.9	87	WNW			3		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.65	753.0	30.17	766.4	31.5	— 0.3		Calm			0		0			0	0		Reallehrer Dicknether.
Posen	29.85	758.8	30.16	766.0	33.6	0.9	80	W			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.64	752.9	30.22	767.6	34.2	1.2	77	NE			1		0			0	0		Imp. University Observatory.
Stuttgart	29.21	742.0	30.19	766.9	37.8	3.2	59	E			1		0			0	0		Prof. Dr. Schoder.
Thorn	29.98	761.6	30.17	766.4	30.4	— 0.9	72	SW			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.67	728.3	30.26	768.6	35.1	1.7	71		0.2	0.1						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.07	763 6	30.09	764.2	32.4	0.2	100	SSW			3		10			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.0	30.08	764.1	50.7	10.4		NE			3.0		Mist					Misty	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.2	30.06	763.6	65.7	18.7	30	WNW	5	2.2			3	NW		0	0	D. clouds	
Deesa	29.50	749.4	29.99	761.7	72.8	22.7	11	NNW	10.8	4.8			6	W		0	0	Misty	
Bombay	29.88	758.9	29.92	759.8	75.3	24.1	66	NNW	23	10.3			0			0	0	Blue sky	
Poona (Yarrowda)	28.00	711.3	29.83	757.6	88.0	31.1	15	NNW					2		W	0	0	D. clouds	
Belgaum	27.35	694.6	29.87	758.7	79.1	26.2	28	W	7	3.1			1			0	0	Blue sky	
Lahore	29.20	741.6	29.97	761.2	61.6	16.4	23	Calm	1.2	0.5			8			0	0	D. clouds	
Roorkee	29.00	736.7	29.94	760.6	60.8	16.0	35	NW	6 0	2.7			10			0	0		
Agra	29.30	744.3	29.89	759.1	66.8	19.3	41	W	6.4	2.9			9		W	0	0		
Nagpur	28.83	732.2	29.86	758 4	83.4	28.6	28	Calm	2.5	1.1			0			0	0	Blue sky	
Jubbulpore	28.54	725.0	29.94	760.5	69.6	20.9	43	NE	1.7	0.8			2			0	0	D. clouds	
Lucknow	29.53	749.5	29.92	759.8	66.3	19.1	39	WNW	2.7	1.2			0			0	0	Blue sky	
Allahabad	29.61	752.1	29.94	760.4	63.4	17.5	44	Calm	3.4	1.5			0			0	0	Blue sky	
Patna	29.70	754.2	29.88	759.0	73.1	22.8	43	W	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.84	707.1	29.91	759.6	64.8	18.2	58	NW	9.4	4.2			0			0	0	Blue sky	
Cuttack	29.81	757.1	29.89	759.2	82.0	27.8	62	SW	2.3	1.0			0			0	0	Blue sky	
Calcutta (Alipore)	29.85	758.3	29.88	758.8	74.7	23.7	67	WSW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.46	748.3	29.86	758.5	71.3	21.8	48	W	1.5	0.7			0			0	0	Blue sky	
Chittagong	29.84	757.8	29.93	760 1	73.3	22 9	82	SW	4.3	1.9			0			0	0		
Sibsagar	29.52	749.9	29.87	758.7	65.7	18.7	90	E	3.1	0.6			10	W	W	0.05	1.3	Overcast	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.72	754.8	30.14	765.6	50.0	10.0	19	E	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.62	752.3	30.16	766.0	40.8	4.9	64	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.04	762.9	30.15	765.8	43.9	6.6	46	NNW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.24	742.6	30.18	766.5	39.7	4.3	78	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.91	759.6	30.10	764.6	55.9	12.8	30	E	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.18	715.8	30.16	766.0	41.0	5.0	39	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.10	764.5	30.15	765.8	39.6	4.2	60	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	28.26	717.9	30.10	764.6	47.3	8.6	40	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.02	762.5	30.11	764.8	52.5	11.4	23	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.85	758.3	30.04	762.9	53.4	11.9	40	N	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.74	755.4	30.00	762.0	52.7	11.5	76	NNW	15.4	6.9	.....	.....	8	N	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.11	739.3	30.02	762.5	47.8	8.8	70	NW	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.82	757.5	30.02	762.6	56.3	13.5	49	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.73	755.2	29.99	761.7	53.2	11.8	63	NNE	9.8	4.4	.....	.....	10	NNE	.....	0	0	.....	Prof. G. Cincciatore.
Syracuse	29.85	758.3	29.99	759.4	52.5	11.4	77	ENE	12.5	5.6	.....	.....	10	ENE	.....	0.079	2.0	.....	Prof. V.G. Guliano.
Sub-Series.																			
Naples, S. R.	29.48	748.9	30.02	762.5	51.8	11.0	41	NE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.26	768.6	30.27	768.8	43.5	6.4	88	Calm	0	0	.....	.....	10s	.....	.....	0	0	Gloomy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.03	762.7	30.24	768.1	46.4	8.0	80	NNE	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory.	30.26	768.6	30.33	770.4	38.6	3.7	74	NNW	5.6	2.5	.....	.....	10s	.....	.....	0.009	0.023	Covered	The Staff.
Wakayama	30.19	766.8	30.24	768.1	44.7	7.1	91	NNW	1.8	0.8	.....	.....	10s	.....	.....	0.035	0.89	Cloudy.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.06	636.4	30.26	768.7	41.0	5.0	50	Calm	.....	.....	0	1s	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.47	621.4	30.26	768.7	51.0	10.6	73	SE	.....	.....	1	1c	0	SW	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.82	757.5	30.09	764.3	53.2	11.8	82	NW	.....	.....	3	1s	0	.....	.....	0	0	Clear.	F. Quijano, C. E.
Mexico, Central Observatory	23.08	586.1	30.22	767.6	45.1	7.3	72	Calm	0	0	.....	2c	0	.....	.....	0	0	Pleasant	The Staff
Morelia	24.06	611.2	.....	.....	55.9	13.3	51	SE	.....	.....	5	3c	0	S	.....	0	0	Blue sky	M. Fena, M. D.
Pabellon (Aguascalientes)	23.95	608.2	30.04	763.1	46.0	7.8	60	SW	.....	.....	1	1s	0	.....	NE	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.5	30.32	770.1	43.7	6.5	48	Calm	0	0	.....	.....	1c	.....	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.19	614.5	30.34	770.5	45.1	7.3	79	E	.....	.....	1	10	0	W	.....	0	0	Covered.	G. Barroeta, M. D.
Tlacotalpam	30.17	766.2	30.18	766.5	64.6	18.1	82	N	.....	.....	4	5	5	N	NW	0	0	Covered	Prof. M. M. Chazaro.
Vera-Cruz	30.15	765.7	30.17	766.4	66.2	19.0	76	N	14.3	6.4	.....	.....	10n	.....	.....	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.03	762.8	30.03	762.8	42.3	5.7	.....	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.00	761.9	30.05	763.3	38.8	3.8	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.00	761.9	30.00	761.9	38.1	3.4	.....	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.6	30.02	762.6	40.6	4.8	83	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.02	762.4	30.07	763.6	38.3	3.5	93	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.76	755.8	29.81	757.2	40.6	4.8	65	S	23.5	10.5	.....	.....	6	.....	.....	0.157	4.0	.....	
Brönö	29.67	753.6	29.71	754.6	37.0	2.8	52	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	
Christiana	29.77	756.2	29.92	760.0	37.2	2.9	53	WSW	0	0	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.46	748.2	29.50	749.3	23.4	— 4.8	84	NE	7	3	.....	.....	10	.....	.....	0.024	0.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.33	770.4	53.2	11.8	42	ENE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.10	764.8	30.19	766.8	65.7	18.7	57	E	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.92	760.0	30.28	769.2	58.6	14.8	43	NE	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.14	765.5	30.21	767.3	61.9	16.6	77	SW	13.7	6.1	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de O. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. N. 13° 49′, W. 20° 57′	.....	.....	.....	.....	78.8	26.0	.....	N	.....	.....	4	.....	4	.....	NE	3	NE	D. clouds	A. de Souza Roza, 2nd L't
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Cómd't.
Sado, Capt. J. A de Brito Capello. St. Paul de Loando	.....	.....	29.81	757.1	79.7	26.5	.....	WNW	.....	.....	3	.....	9	.....	NW	.....	.....	Drizzling	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.13	765.2	63.0	17.2	.....	NE	.....	.....	1	.....	10	.....	NE	1	.....	2 hours rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.54	750.2	29.56	750.7	27.7	— 2.4	96	NNE	18	8	.....	.....	10	.....	.....	.....	.....	Snowing	Capt. Sselwerstow.
Astrakhan	30.22	767.5	30.13	765.4	23.2	— 4.9	95	WSW	16	7	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	28.98	735.6	29.48	748.8	24.8	— 4.0	100	SW	45	20	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.39	746.5	29.64	752.8	34.5	1.4	80	WSW	11	5	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.34	719.9	29.32	744.7	32.5	0.3	87	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.22	742.2	29.50	749.2	34.3	1.3	89	WSW	11	5	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.26	768.5	30.28	769.0	35.6	2.0	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.36	745.7	30.03	762.8	27.3	— 2.6	96	W	9	4	.....	.....	10n	.....	.....	.....	.....	Dense fog	Physical Cabinet.
Krotkowo*	29.18	741.1	29.66	753.4	33.4	0.8	79	NW	4	2	.....	.....	3	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.86	758.5	30.08	764.0	27.7	— 2.4	87	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.11	739.5	29.68	753.9	33.6	0.9	85	S	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.96	710.1	29.57	776.4	— 8.5	—22.5	77	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.17	766.3	30.24	768.1	28.6	— 1.9	98	SSW	4	2	.....	.....	10n	.....	.....	.....	.....	Dense fog	Kurdakof.
Nukuss	30.04	763.1	30.29	769.3	32.7	0.4	89	Calm	0	0	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.23	767.9	30.37	771.5	23.9	— 4.5	81	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.34	745.2	29.35	745.6	34.9	1.6	71	WNW	29	13	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.71	729.1	30.36	771.2	33.4	0.8	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.86	733.1	30.34	770.5	40.6	4.8	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.68	753.9	30.13	765.2	30.2	— 1.0	78	W	16	7	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.52	749.7	29.95	760.8	30.7	— 0.7	89	SW	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	29.27	743.4	29.57	751.0	24.	— 4.2	81	S	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.04	763.0	30.15	765.7	56.5	13.6	55	S	3.3	1.47	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.09	764.2	30.14	765.6	61.2	16.2	54	W	2.3	1.04	.....	2	6	NW	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.21	691.1	.....	.....	41.4	5.2	81	S	4.1	1.84	.....	0	9	.....	.....	0	0	Almost cov'd	Domin go Martin y Peres.
Madrid, Royal Observatory	27.95	709.9	30.22	767 5	50.9	10.5	59	S	3.0	1.33	.....	0	6	.....	.....	Inap.	Inap.	Cloudy	The Staff.
Murcia, Met. Obs'y	30.05	763.2	30.20	767.1	59.7	15.4	62	SW	1.2	0.53	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.5	30.14	765.6	50.9	10.5	98	SW	11.9	5.3	.....	.....	10	.....	.....	0.280	7.1	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.08	764.1	30.15	765.8	67.5	19.7	90	ENE	2.7	1.2	.....	1ck	1sk	N	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.96	760.9	30.01	762.2	80.5	26.9	73	ESE	9.8	4.4	2.0	.....	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.12	765.1	30.23	767.7	62.8	17.1	61	ESE	6.6	3.0	.....	1	2	E	E	0	0	.....	Capt. C. Fulazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.98	761.4	30.07	763.7	76.6	24.8	74	NE	11.6	5.20	.....	6kn	6kn	NE	NE	0.029	0.50	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 656.5 m., or 2,160.6 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.39	746.4	29.43	747.4	23.0	— 5.0	.....	NW	.....	.....	4	.....	2	.....	.....	0.394	10.0	.....	
Umea	29.52	749.7	29.57	751.0	33.4	0.8	68	NW	.....	.....	6	.....	1	.....	.....	0	0	.....	
Hernosand	29.64	752.9	29.69	754.2	37.8	3.2	90	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Stockholm	29.69	754.1	29.87	758.6	38.1	3.4	45	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.82	757.3	29.87	758.8	35.6	2.0	85	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.2	29.82	757.4	37.8	3.2	95	WNW	6.9	3.1	.....	.....	0	.....	.....	0.004	0.01	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 10° 12′, W. 80° 22′	.....	.....	29.95‡	760.6‡	78.8	26.0	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.76	730.6	30.28	769.0	27.1	— 2.7	100	N	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.53	724.7	30.26	768.7	27.7	— 2.4	75	W	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.7 mm.; Thermometer, —5.4 Cent. Relative Humidity, +26 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.15	765.8	41.7	5.4	71	NNE	12	5.5	.....	.....	1	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.3	53.8	12.1	.....	SE	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.02	762.6	59.9	15.5	58	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....																			

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.97	761.2	29.98	761.5	— 8	—13.3	.....	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.04	763.0	30.11	764.8	— 3.1	— 19.5	97	Calm	0	0	.....	5ck	5ks	SW	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.12	765.0	30.17	766.3	15.1	— 9.4	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	29.94	760.5	30.14	765.5	15.3	— 9.3	87	NW	.....	.....	1	.....	10s	.....	.....	0.15	3.8	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.85	758.2	30.03	762.7	7.5	—13.6	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	17.6	— 8.0	92	SW	35	15.6	.....	.....	10n	.....	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.13	765.3	1.1	—17.2	97	Calm	0	0	.....	.....	10s	.....	.....	0.10	2.5	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.88	746.2	30.37	771.4	—27.0	—32.8	100	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.07	738.4	30.28	769.1	11.0	—11.7	100	W	.....	.....	1	3cs	0	W	.....	Inap.	Inap.	Fair	James Grant.
Halifax, N. S	30.12	765.0	30.26	768.6	22.2	— 5.4	97	Calm	0	0	.....	3cs	5ks	.....	.....	Inap.	Inap.	Cloudy	A. Allison.
Hamilton, Ontario	29.89	759.2	30.30	769.6	13.9	—10.1	91	W	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.82	757.4	30.19	766.8	15.2	— 9.3	84	NE	5	2.2	.....	0	0	.....	.....	0.17	4.3	Clear.	S. Woods, M. A.
Little Glace Bay, N. S.	30.17	766.3	30.21	767.3	18.2	— 7.7	86	W	6	2.7	.....	6k	0	W	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.88	758.9	30.09	764.3	18.6	— 7.8	86	W	15	6.7	.....	1k	3s	W	.....	0.01	0.3	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	30.10	764.5	30.14	765.5	—29.9	—34.4	100	SW	.....	.....	3	0	4s	.....	.....	0.05	1.3	Fair	J. R. Nesson.
Norwood, Ontario	29.39	746.5	30.17	766.3	0.6	—17.4	100	NW	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.46	748.3	30.26	768.3	0.8	—17.3	85	W	2	0.9	.....	2ks	4ks	W	.....	0.15	3.8	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.44	747.8	30.27	768.8	9.7	—12.4	68	Calm	.....	.....	0	0	6s	.....	.....	0	0	Fine	J. F. Jeffers, M. A.
Port Dover, Ontario	29.56	750.8	30.32	770.1	13.1	—10.5	81	W	9	4.0	.....	0	0	.....	.....	0.32	8.1	Clear.	H. Morgan.
Port Stanley, Ontario	29.61	752.1	30.32	770.1	11.2	—11.6	84	W	8	3.6	.....	2ck	0	W	.....	0.20	5.1	Clear.	M. Payne.
Quebec, Quebec	29.72	754.9	30.06	763.5	19.0	— 7.2	100	W	.....	.....	3	.....	10n	.....	.....	0.18	4.6	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.65	753.1	30.17	766.3	0.2	—17.7	85	Calm	0	0	.....	0	4s	.....	.....	0	0	Fair	W. H. McIntyre.
St. John, N. B	29.94	760.5	30.12	765.0	15	— 9.4	100	Calm	0	0	.....	.....	10k	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.46	748.3	30.24	768.1	16.0	— 8.9	87	W	11	4.9	.....	.....	10ks	.....	.....	0.30	7.6	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.87	733.3	30.27	768.8	12.0	—11.1	94	W	15	6.7	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.22	767.6	30.26	768.6	3.4	—15.9	97	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.83	757.7	30.25	768.3	11.7	—11.3	86	N	3	1.3	.....	0	5ks	.....	.....	0.020	0.51	Fair	Magnetic Observatory
Windsor, N. S	30.10	764.5	30.20	767.1	18.0	— 7.8	100	SW	2	0.9	.....	0	4k	.....	.....	0.20	5.1	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.13	739.9	30.30	769.6	8.6	—13.0	94	SW	10	4.5	.....	0	1s	.....	.....	0.20	5.1	Fine	Professor Wolverton.
Yarmouth, N. S	30.13	765.3	30.20	767.1	33.7	0.9	91	SW	14	6.3	.....	7cs;k	3n	W	.....	0.05	1.3	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.89	759.2	30.16	766.1	13	—10.6	62	W	.....	.....	.....	.....	8s	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	30.12	765.0	21.2	— 6.0	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	The Commandant.
.....																			
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.01	762.2	30.26	768.6	23	— 5.0	73	S	8	3.6	.....	2k	0	W	.....	0	0	Fair	
Alpena, Michigan	29.53	750.0	30.25	768.3	5	—15.0	75	W	7	3.1	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.19	741.4	30.41	772.4	35	1.7	61	SE	7	3.1	.....	Haze	2s	.....	Calm	0	0	Fair	
Atlantic City, New Jersey	30.33	770.6	30.35	770.9	34	1.1	79	W	4	1.8	.....	5c	2s	W	Calm	0	0	Fair	
Augusta, Georgia	30.25	768.3	30.47	773.9	37	2.8	90	Calm	0	0	.....	.....	10s	.....	W	0.41	10.4	Cloudy	
Baltimore, Maryland	30.32	770.1	30.38	771.6	33	0.6	70	S	3	1.3	.....	2c	5s	SW	Calm	0	0	Fair	
Barnegat, New Jersey	30.31	769.9	30.33	770.4	32	0.0	89	SW	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Bismarck, Dakota	28.31	719.1	30.16	766.1	4	—15.6	100	N	18	8.0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Boerne, Texas	28.94	735.1	30.34	770.6	39	3.9	82	N	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Boise City, Idaho	27.45	697.2	30.41	772.4	30	— 1.1	68	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.07	763.8	30.24	768.1	30	— 1.1	78	SW	13	5.8	.....	2c	0	W	.....	0	0	Fair	
Brackettville, Texas	29.24	742.7	30.36	771.1	41	5.0	82	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.94	735.1	30.02	762.7	7	—13.9	100	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.27	768.8	30.32	770.1	47	8.3	85	N	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Buffalo, New York	29.51	749.5	30.27	768.8	17.5	— 8.1	75	W	17	7.6	.....	2k	0	SW	.....	0.03	0.8	Clear	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.84	757.9	30.15	765.8	22	— 5.6	72	S	7	3.1	.....	2ck	2ks	W	SW	Inap.	Inap.	Fair	
Cairo, Illinois	30.02	762.5	30.44	773.2	32	0.0	69	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.66	702.6	30.23	767.8	27	— 2.8	76	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.35	770.9	30.36	771.1	38	3.3	91	NE	21	9.4	.....	.....	10n	.....	NE	0.67	17.0	Light rain	
Cape Henry, Virginia	30.34	770.6	30.36	771.1	38	3.3	81	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.34	770.6	30.36	771.1	37	2.8	100	NE	24	10.7	.....	.....	10n	.....	NE	0.74	18.8	Light rain	
Cape May, New Jersey	30.32	770.1	30.35	770.9	38	3.3	71	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Castroville, Texas	29.66	753.4	30.41	772.4	40	4.4	82	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Threatening	
Cedar Keys, Florida	30.28	769.1	30.31	769.9	48	8.9	93	E	12	5.4	.....	.....	10s	.....	NE	1.78	45.2	Cloudy	
Charleston, South Carolina	30.32	770.1	30.38	771 6	42	5.6	83	N	7	3.1	.....	.....	10s	.....	Calm	1.37	34.8	Threatening	
Charlotte, North Carolina	29.80	749.3	30.36	771.1	34	1.1	90	S	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.58	751.3	30.44	773.2	29	— 1.7	89	Calm	0	0	.....	1cs	Sm'e	Calm	NW	0	0	Dense smoke	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	17	— 8.3	67	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.48	748.8	30.22	767.6	23	— 5.0	73	S	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.69	754.1	30.38	771.6	35	1.7	70	S	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.57	751.1	30.36	771.1	17	— 8.3	67	S	10	4.5	.....	1ck;k	0	SW	.....	0.02	0.5	Clear	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.46	748.3	30.35	770.9	32	0.0	89	W	2	0.9	.....	.....	fog	.....	Calm	Inap.	Inap.	Foggy	
Concho, Texas	28.45	722.6	30.28	769.1	27	— 2.8	76	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.97	761.2	30.48	774.2	32	0.0	79	N	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	29.38	746.2	30.05	763.3	28	— 2.2	77	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	30	— 1.1	78	NE	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Deadwood, Dakota	25.40	645.2	.....	.....	26	— 3.3	40	NE	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Decatur, Texas	29.33	745.0	30.59	777.0	35	1.7	61	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.58	751.3	30.44	773.2	29	— 1.7	78	SW	6	2.7	.....	0	0	.....	.....	.....	0	Clear	
Denver, Colorado	24.90	632.4	30.12	765.0	15	— 9.4	55	S	8	3.6	.....	0	0	.....	.....	.....	0	Clear	
Des Moines, Iowa	29.03	737.3	29.94	760.5	33	0.6	89	W	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Detroit, Michigan	29.59	751.6	30.32	770.1	13	—10.6	81	SW	7	...	.....	5ck	2s	SW	Calm	0.13	3.3	Fair	
Dodge City, Kansas	27.62	701.5	30.13	765.3	12	—11.1	61	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.24	742.7	29.98	761.5	22	— 5.6	86	SE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Heavy snow	
Duluth, Minnesota	29.45	748.0	30.23	767.8	-10	—23.3	77	SW	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Eagle Pass, Texas	29.55	750.6	30.31	769.9	45	7.2	61	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.04	763.0	30.11	764.8	25	— 3.9	81	SW	5	2.2	.....	.....	10s;bz	.....	SW;Calm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	47	8.3	85	N	.....	.....	4	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.56	750.8	30.33	770.4	24	— 4.4	87	W	14	6.3	.....	.....	10ks	.....	Calm	0.12	3.0	Cloudy	
Escanaba, Michigan	29.54	750.3	30.29	769.4	— 9	—22.8	56	N	1	0.4	.....	0	2s	.....	N	0	0	Fair	
Florence, Arizona	28.79	731.3	30.39	771.9	33	0.6	79	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, New Mexico	.....	.....	.....	.....	28	— 2.2	77	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.10	713.7	30.10	764.5	12	—11.1	80	NW	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Custer, Montana	26.99	685.5	.....	.....	31	— 0.6	79	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.35	643.9	30.31	769 9	25	— 3.9	62	W	5	2.2	.....	5k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.84	757.9	30.43	772.9	23	— 5.0	86	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Fort Grant, Arizona	25.37	644.4	30.17	766.3	20	— 6.7	41	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.15	740.4	30.54	775.7	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.38	695.4	.....	.....	21	— 6.1	72	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.07	713.0	30.17	766.3	21	— 6.1	71	Calm	0	0	.....	1ck	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.16	740.7	30.37	771.4	24	— 4.4	74	SW	1	0.4	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.26	717.8	.....	.....	1	—17.2	85	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	17	— 8.3	67	NW	.....	.....	2	.....	10s	.....	W	0.02	0.5	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28 54	724.9	30.19	766.8	36	2.2	45	N	1	0.4	.....	.....	.....	.....	.....	.....	.....	.....	
Galveston, Texas	30.38	771.6	30.42	772.7	46	7.8	62	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5cs	5s	SW	E	0	0	Cloudy	
Grand Haven, Michigan	29.54	750.3	30.24	768.1	19	— 7.2	85	SE	4	1.8	.....	.....	.....	.....	.....	.....	.....	.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.49	749.0	30.52	775.2	24	— 4.4	87	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.48	748.8	30.33	770.4	22	— 5.6	72	NE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
Jacksboro, Texas	30.42	772 7	30.45	773.4	45	7.2	68	N	15	6.7	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	29.21	741.9	30.42	772.7	30	— 1.1	78	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	30.31	769.9	30.33	770.4	48	8.9	93	N	8	3.6	.....	.....	10s	.....	Calm	1.32	33.5	Cloudy	
Key West, Florida	29.40	746 7	30.05	763.3	32	0.0	64	SW	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Kittyhawk, North Carolina	30.11	764.8	30.14	765.5	73	22.8	86	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	30.37	771.4	30.40	772.1	38	3.3	91	N	13	5.8	.....	.....	10n	.....	N	0.23	5.8	Light rain	
La Crosse, Wisconsin	29.38	746.2	30.47	773.9	27.5	— 2.5	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
La Mesilla, New Mexico	29.22	742.2	30.01	762.2	13	—10.6	81	SW	5	2.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Laredo, Texas	26.32	668.5	30.46	773.7	19	— 7.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.84	757.9	30.19	766.8	45	9.4	93	NE	2	0.9	.....	.....	10ks	.....	NE	0	0	Cloudy	
Lewiston, Idaho	29.25	742.9	30 14	765.5	32	0.0	69	SW	14	5 3	.....	0	1s	.....	.....	0	0	Clear	
Little Rock, Arkansas	.....	.....	.....	.....	26	— 3.3	88	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Los Angeles, California	30.02	762.5	30.51	774 9	34	1.1	70	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.96	761.0	30.32	770.1	41.0	5.0	67	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.75	755.6	30.34	770.6	32	0.0	69	E	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Madison, Wisconsin	29.67	753.6	30.39	771.9	32	0.0	69	S	1	0.4	.....	10cs	0	SW	.....	0	0	Cloudy	
Marquette, Michigan	29.03	737.3	30.09	764.3	17	— 8.3	83	S	16	7.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Mason, Texas	29.44	747.8	30.24	768.1	— 3	—19.4	66	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	28.73	729.7	30.02	777 7	-34	1.1	70	NW	2	0.9	.....	0	5s	.....	SW	0	0	Fair	
	30.08	764.0	30.44	773.2	33	0.6	69	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.41	747.0	30.21	767.3	14	—10.0	82	S	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Mobile, Alabama	30.38	771.6	30.48	772.9	40	4.4	91	N	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Montgomery, Alabama	30.20	767.1	30.45	773.4	37	2.8	90	NE	3	1.3	.....	5c	0	W	.....	0.09	2.3	Fair	
Morgantown, West Virginia	29.31	744.6	30.37	771.4	28	— 2.2	77	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	28.39	694.1	29.75	755.6	5	—15.0	100	NW	78	34.9	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.80	756.9	30.39	771.9	25	— 3.9	62	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut	30.18	766.6	30.31	769.9	32	0.0	79	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.24	767.8	30.28	769.1	32	0.0	79	W	8	3.6	.....	6cs	1s	W	W	0	0	Fair	
New Orleans, Louisiana	30.36	771.1	30.43	772.9	44	6.7	75	NE	10	4.5	.....	.....	10s	.....	Calm	0.42	10.7	Cloudy	
Newport, Rhode Island	30.21	767.3	30.26	768.6	36	2.2	61	SW	13	5.8	.....	5ck	2s	W	SW	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	34	1.1	100	N	.....	.....	2	.....	10n	.....	N	.....	.....	Light rain	
New York, New York	30.14	765.5	30.33	770.4	28	— 2.2	77	SW	4	1.8	.....	8cs	0	SW	.....	0	0	Fair	
Norfolk, Virginia	30.32	770.1	30.38	771.6	43	6.1	75	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.17	690.1	29.89	759.2	23	— 5.0	73	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.26	768.6	30.30	769.6	32.0	0.0	100	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.80	731.5	29.93	760.2	33	0.6	79	W	12	5.4	.....	0	8s	.....	N	0	0	Cloudy	
Oswego, New York	29.86	758.4	30.20	767.1	26	— 3.3	75	W	16	7.2	.....	0	5ks	.....	W	0	0	Fair	
Pembina, Dakota	29.32	744.7	30.30	769.6	—27	—32.8	100	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.40	772.1	30.43	772.9	42	5.6	83	N	9	4.0	.....	8cs	2s	W	N	0.45	11.4	Cloudy	
Philadelphia, Pennsylvania	30.29	769.4	30.34	770.6	30	— 1.1	78	SW	6	2.7	.....	5cs	0	SW	.....	0	0	Fair	
Phœnix, Arizona	29.16	740.7	31.11	790.2	31	— 0.6	69	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.59	446.8	29.80	756.9	— 4	—20.0	28	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Ploche, Nevada	24.21	614.9	29.98	761.5	13	—10.6	62	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.50	749.3	30.36	771.1	28	— 2.2	77	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Port Huron, Michigan	29.56	750.8	30.30	769.6	8	—13.3	78	SW	10	4.5	.....	5c	0	Calm	.....	0.15	3.8	Fair	
Portland, Maine	30.07	763.8	30.12	765.0	21	— 6.1	71	SW	7	3.1	.....	0	2s	.....	Calm	0	0	Clear	
Portland, Oregon	30.27	768.8	30.35	770.9	34.5	1.4	85	S	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	39	3.9	100	NE	27	12.1	.....	.....	10n	.....	NE	0.40	10.2	Light rain	
Prescott, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.14	765.5	30.15	765.8	60	15.6	88	NE	20	8.9	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	
Red Bluff, California	29.08	761.5	30.37	771.4	36	2.2	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.14	765.5	30.36	771.1	40	7.8	69	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Rochester, New York	29.52	749.8	30.18	766.6	21	— 6.1	71	W	15	6.7	.....	0	1s	.....	Calm	0.05	1.3	Clear	
Roseburg, Oregon	29.78	756.4	30.38	771.6	30.5	— 0.8	95	E	4	1.8	.....	.....	10s	....	Calm	0	0	Cloudy	
Sacramento, California	30.25	768.3	30.33	770.4	40	4.4	87	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.71	754.6	30.33	770.4	25	— 3.9	75	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.08	738.6	29.98	761.5	7	—13.9	76	E	11	4.9	.....	.....	10s	.....	E	0.11	2.8	Cloudy	
Salt Lake City, Utah	25.92	658.4	30.25	768.3	25	— 3.9	62	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.77	756.1	30.39	771.9	44	6.7	68	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.26	768.3	30.33	770.4	40	4.4	48	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.62	752.3	30.36	771.1	18	— 7.8	68	W	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear	
Sandy Hook, New Jersey	30.28	769.1	30.32	770.1	30	— 1.1	78	SW	12	5.4	.....	0	8s	.....	W	0	0	Fair	
San Francisco, California	30.26	768.6	30.33	770.4	45	7.2	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.25	590.5	29.79	756.7	8	—13.3	33	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.31	769.9	30.41	772.4	41	5.0	91	N	9	4.0	.....	.....	10s	.....	N	1.13	28.7	Cloudy	
Shreveport, Louisiana	30.23	767.8	30.47	773.9	38	3.3	72	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.33	770.4	30.37	771.4	36	2.2	100	N	10	4.5	.....	5k	8s	NE	Calm	0.75	19.1	Cloudy	
Socorro, New Mexico	25.65	651.5	29.72	754.9	12	—11.1	42	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.55	750.6	30.27	768.8	27	— 2.8	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.14	765.5	30.29	769.4	25	— 3.9	75	S	2	0.9	.....	5cs	0	SW	.....	Inap.	Inap.	Fair	
Stockton, Texas	27.26	692.1	30.25	768.3	28	— 2.2	11	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.15	765.8	30.21	767.3	33	0.6	70	W	27	12.1	.....	5c	0	W	.....	0	0	Fair	
Toledo, Ohio	29.59	751.6	30.33	770.4	20	— 6.7	70	SW	4	1.8	.....	0	2s	.....	W	Inap.	Inap.	Clear	
Tucson, Arizona	27.78	705.6	30.33	770.4	30	— 1.1	78	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.98	761.5	30.52	775.2	22.5	— 5.3	93	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.55	750.6	30.40	772.1	40	4.4	82	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.19	766.8	30.47	773.9	35	1.7	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.37	619.0	29.85	758.2	13	—10.6	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.90	759.4	30.29	769.4	39	3.9	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.26	768.6	30.38	771.6	29	— 1.7	67	S	2	0.9	.....	0	2s;fog	.....	W;Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	24	— 4.4	87	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.29	769.4	30.37	771.4	34	1.1	95	NE	4	1.8	.....	.....	10n	.....	Calm	0.71	18.0	Light rain	
Winnemucca, Nevada	25.89	657.6	30.25	768.3	18	— 7.8	68	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.23	767.8	30.27	768.8	38	3.3	63	W	28	12.5	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.65	727.7	29.98	761.5	36	2.2	53	W	21	9.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	30.20	767.1	30.36	771.1	40	4.4	31	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.06	763.5	30.11	764.8	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	75	23.9	78	N	2	0.9	.....	0	0	.....	.....	.....	.....	Hazy	James Gall.
Navassa, W. I.	30.00	762.0	30.08	764.0	75.5	24.2	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	79	26.1	87	NE	.....	.....	2	0	5k	.....	.....	0	0	Fair	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.39	746.5	29.94	760.5	80	26.7	80	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.12	765.0	30.15	765.8	74	23.3	81	N	1.2	0.5	.....	0	0	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.93	760.2	29.98	761.5	—36.0	—37.8	.....	NW	15	6.7	.....	.....	9s	.....	NW	0	0	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Coleman City, 1,?27 (?) ft., or 626 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1 670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Lo'er From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.41‡	772.4‡	.....	.....	42	5.6	83	NE	6	2.7	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	30.20‡	767.1‡	.....	.....	17	— 8.3	67	SW	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.34‡	770.6‡	.....	.....	39	3.9	82	N	.....	.....	1	.....	10n	.....	ENE	0	0	.....	.....	Overcast	
Adams, N. 31° 54′, W. 119° 52′	30.34‡	770.6‡	.....	.....	54	12.2	87	SE	.....	.....	1	.....	2	.....	SE	.....	.....	Smooth	SE	Fair	
Alaska, S. 12° 34′ W. 77° 07′	*	29.90‡	759.4‡	.....	.....	74	23 3	90	WSW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Hazy
Colorado, New York, N. Y.	30.22‡	767.6‡	.....	.....	27	— 2.8	.....	SW	7	3.1	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Constitution, Aspinwall, Panama	29.96‡	761.0‡	.....	.....	78	25.6	82	N	.....	.....	5	.....	3	.....	N	.....	.....	.....	.....	Clear	
Enterprise, N. 42° 06′, E. 61° 08′	30.12‡	765.0‡	.....	.....	53	11.7	73	NNE	.....	.....	3	.....	1	.....	NNE	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.39‡	771.9‡	.....	.....	40	4.4	91	SSW	1.2	0.5	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.41‡	772.4‡	.....	.....	42	5.6	83	Calm	0	0	..	.....	0	.....	.....	0	0	.....	.....	Foggy	
Kearsarge, N. 19° 25′, W. 82° 33′	30.12‡	765.0‡	.....	.....	77	25.0	82	ENE	.....	.....	2–3	.....	2	.....	ENE	.....	.....	Smooth	.....	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.33‡	770.4‡	.....	.....	46	7.8	92	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, Rio de Janeiro, Brazil	29.82‡	757.4‡	.....	.....	80	26.7	78	Calm	.....	.....	0	.....	5	.....	Calm	0	0	.....	.....	Fair	
Michigan, Erie, Pa.	30.27‡	768.8‡	.....	.....	23	— 5.0	60	WSW	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.26‡	768.6‡	.....	.....	45	7 2	100	ENE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.44‡	773.2‡	.....	.....	41	5.0	91	NNW	12	5.4	.....	.....	10	.....	NW	1.40	35.6	.....	.....	Raining	
Nipsic, Port of Spain, Trinidad, W.I.	29.99‡	761.7‡	.....	.....	79	26.1	70	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds	
Onward, Callao, Peru	†	29.89‡	759.2‡	.....	.....	76	24.4	77	SSE	.....	.....	1	.....	5	.....	.....	.....	Long	W	Fair	
Palos, Tientsin, China	30.34‡	770.6‡	.....	.....	32	0.0	100	NE	.....	.....	1	.....	5?	.....	.....	.....	.....	.....	.....	Clear?	
Passaic, Washington, D. C.	30.34‡	770.6‡	.....	.....	32	0.0	89	W	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair	
Pensacola, Callao, Peru	29.90‡	759.4‡	.....	.....	71	21.7	90	E	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Navy Yard, Norfolk, Va.	30.38‡	771.6‡	.....	.....	40	4.4	91	SSW	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Quinnebaug, Leghorn, Italy	30.09‡	764.3‡	.....	.....	33	17.2	38	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger, N. 37° 50′, W. 127° 05′	30.31‡	769.9‡	.....	.....	50	10.0	86	NNE	.....	.....	3	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Richmond, Hong-Kong, China	30.09‡	764.3‡	.....	.....	62	16.7	94	E	.....	.....	3	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	†	30.48‡	774.2‡	.....	.....	48	8.9	86	NNW	3	1.3	.....	.....	10	.....	N	0	0	.....	.....	Cloudy
Santee, Annapolis, Md	30.38‡	771.6‡	.....	.....	34	1.1	.....	WNW	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	29.62‡	752.3‡	.....	.....	79	26.1	74	NNE	.....	.....	4	.....	2	.....	NNE	.....	.....	Mod'te	NNE	Fair	
St. Louis, League Island, Pa.	30.33‡	770.4‡	.....	.....	30	— 1.1	.....	SW	7	3.1	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Swatara, N. 35° 41′, W. 29° 38′	..	30.25‡	768.3‡	.....	.....	68	20.0	79	W	.....	.....	1	.....	2	.....	W	.....	.....	Mod'ate	N	Clear
Tennessee, Norfolk, Va.	30.40‡	772.1‡	.....	.....	38	3.3	91	WSW	2	0.9	.....	.....	10	.....	wsw	0	0	.....	.....	Misty	
Trenton, Toulon, France	30.12‡	765.0‡	.....	.....	58	14.4	58	Var.	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Tuscarora, La Union, San Salvador	29.98‡	761.5‡	.....	.....	79	26.1	78	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.25‡	768.3‡	.....	.....	29	— 1.7	78	SW	7	3.1	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Wyoming, Naples, Italy	30.00‡	762.0‡	.....	.....	55	12.8	39	N	.....	.....	1	.....	8	.....	N	.....	.....	Smooth	N	Cloudy	

NOTE.—*The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters for which the constant reduction is 0.125 in., or 3.18 mm*

† *Aneroid.* ‡ *Corrections for temperature, instrumental error and elevation applied at this office.* * *The error of the barometer is not known.*

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer,																			
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian, N. 4° 40′, W. 46° 24′	29.90‡*	759.4‡	33	0.6	79	NW			6		10			2 hr's	2 hr's		NW	Hazy	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, N. 39° 19′, W. 70° 11′	30.26‡	768 6‡	43	6.1		SW			4		10		SW			Smooth		Raining	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 40° 17′, W. 64° 02′	30.37‡	771.4‡	45	7.2	62	W			3		8		WSW	0	0	Mod'ate	NW	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger. N. 29° 08′, W. 116° 47′	30.44‡	773.7‡				S			4		0					Small	WNW	Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undütsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 1, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 46′, E. 147° 18′	30.29‡	769.4‡	55	12.8	100	E			5		2		N			Mod'ate	N	Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 43° 01′, W. 152° 59′	30.63‡	778.0	51	10.6		WNW			4		ks		NW	Slight	Slight	Mod'ate	WNW	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 32° 43′, W. 117° 15′	30.34‡	770.6‡	54	12.2		SE			2		0			0	0	Light	W	Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 20° 02', W. 106° 28'....†	29 95‡	760 7‡	71	21.7	95	NNE			5		2		NNE	0	0	Mod'ate	NNE	Fair	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly, N. 32° 35', W. 120° 00'....	30.23‡	767.8	52	11.1		SSE			1		0			0	0	Smooth	W	Hazy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury Hong Kong, China. ....†	30 0‡	762.0‡	65	18.3	84	NE			5		10		NE	0	0	Smooth		Misty	E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffiths Seattle Harbor, Washington Ter	30.32‡	771.9‡	45	7.2		SSE			2		8		Calm	0	0			Hazy	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Zalandia, R. C. Ghest																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 41° 16', W. 60° 19' ....†	30 28,	769.1‡	45	7.2		WNW	3	1.3			10		WNW	Light	Light	Mod'ate	W	Gloomy	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry,																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr Addie Fuller, J. Jorgensen																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 42° 59', E. 71° 00'....*	30.24‡	768.1‡	60	15.6		SE			1		10					Mod'ate	W	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, N. 21° 32' W. 67° 55'.....	30.28‡	769.1‡	78	25.6		ENE			5		2		E	0	0	Rough	E	Clear	
Iron Cross, W. Randall, N. 45° 52', W. 18° 07'..	29 57‡	759.1‡	57	13.9	97	SW			9		10		W	0	0	Heavy Cross	W; NW	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

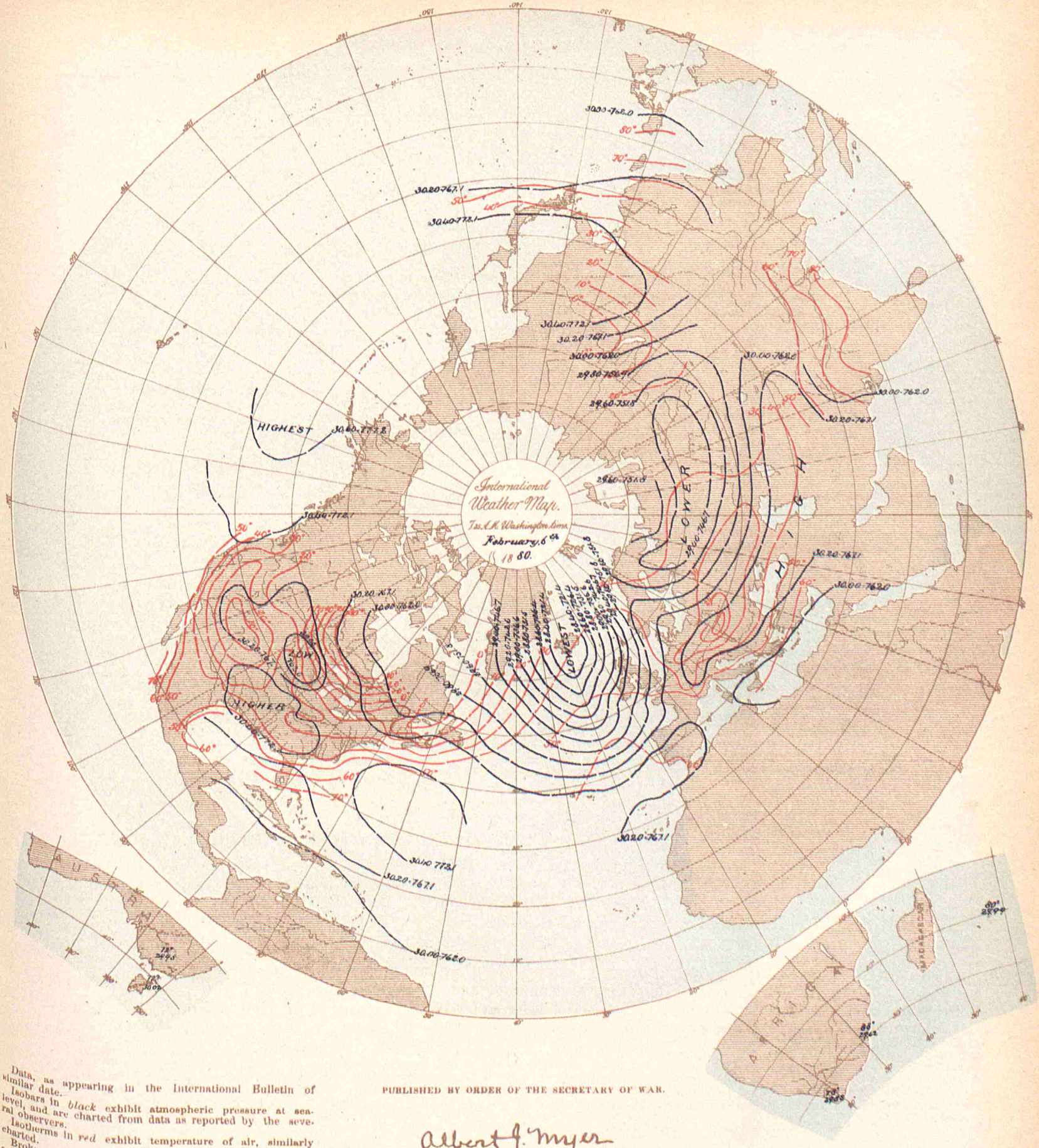
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 7, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.. ..	.. ..	30.26	768.7	.....	.....	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.98	761.6	59.9	15.5	87	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.09	764 3	55.0	12.8	81	WSW	.....	.....	2	.....	10	.....	.....	1.866	47.4	Covered	Tourillere.
La Calle	.....	.....	30.06	763.4	59.9	15.5	64	NNW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau
Saida	.....	.....	30.13	765.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.07	763.8	47.1	8.4	75	N	.....	.....	2	.....	8	.....	.....	0.102	2.6	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.16	766.1	49.6	9.8	66	NNW	.....	.....	1	.....	2	.....	.. ..	0	0	Fair	Bertrand.
Biskra	.....	.....	30.06	763.5	65.1	18.4	71	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.76	755.9	30.37	771.4	12.7	—10.7	100	.....	.....	.....	.....	.....	10	.....	.....	0.024	0.6	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.52	749.9	30.34	770.6	29.1	— 1.6	80	E	7.2	3.2	.....	.....	0	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.38	746.2	30.34	770.5	20.1	— 6.6	84	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	29.00	736.6	30.35	771.0	18.7	— 7.4	64	S	.....	.....	2	.....	0	.....	.....	0.039	1.0	.....	Andreas Rospini.
Hermannstadt	28.84	732.5	30.38	771.6	23.2	— 4.9	81	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster, Observatory	28.78	730.9	30.28	767.7	19.9	— 6.7	100	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	The Staff.
Lemberg	29.33	745.0	30.39	771.8	28.2	— 2.1	96	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.03	760.2	30.04	763.1	52.5	11.4	25	E	.....	.....	3	.....	7	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.82	757.3	30.34	770.6	6.8	-14 0	45	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Panesics, S. J.
Szegedin	30.08	763.9	30.39	771.8	14.4	— 9.8	100	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.97	761.2	30.07	763.8	47.5	8.6	20	ENE	.....	.....	5	.....	6	.....	.....	0	0	.....	P. Busin.
Vienna	29.58	751.4	30.33	770.3	15.1	— 9.4	100	SSE	.....	.....	1	.....	10	.....	.....	0.031	0.8	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 337 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.66	753.4	29.86	758.5	46.4	8.0	62	S	.....	.....	2	10	.....	WNW	.....	0.020	0.5	Solar corona	Royal Observatory.
Furnes	29.70	755.0	29.78	756.5	42.4	5.8	94	SSW	.....	.....	3	.....	10	.....	.....	0.260	6.6	Light rain	M. E. de Cae.
Maeseyck	29.82	757.4	29.95	760.6	46.0	7.8	59	S	.....	.....	2	.....	8	.....	.....	0.236	6.0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.25	742.9	29.35	745.5	45.6	7.6	.....	SW	25	11.2	.....	.....	2	.....	.....	0.375	9.5	Squally	W. Boswell.
Ardrossan	29.41	747.0	29.42	747.3	45	7.2	.....	SW	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	G.Carrick.
Armagh, (Observatory)	29.20	741.7	29.43	747 5	46.0	7.8	.....	SSW	12	5.4	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.52	749.8	47.2	8.4	.....	SSE	14	6.3	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.01	736.8	29.52	749.8	45.2	7.3	.....	S	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.17	740.9	29.56	750.8	47.7	8.7	78	SW	.....	.....	3	.....	10	.....	.....	0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.97	761.2	30.00	762.0	75.5	24.2	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pyt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.57	751.1	29.67	753.6	48.0	8.9	.....	S	.....	.....	1	.....	10	.....	.....	Blan	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.63	752.6	49.0	9.4	.....	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.60	751.8	29.73	755.1	46.2	7.9	.....	S	.....	.....	3	.....	9	.....	.....	.....	.....	Raining	F. Magauran, Q. M. S'gt., R.
Donaghadee	29.40	746.7	29.44	747.8	48	8.9	.....	W	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	J. Mac Gowan.
Dover	29.71	754.6	29.74	755.4	42	5.6	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Falmouth (Observatory)	29.28	743.7	29.51	749.5	48.1	8.9	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Rain & fog	The Staff.
Fort Napier, Natal	27.58	700.5	29.80	756.9	70.8	21.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.85	758.2	87	30.6	.....	NE	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.32	744.7	44	6.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	30.05	763.3	30.10	764.5	67.9	14.4	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.20	741.7	29.41	747.0	45.1	7.3	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.71	754.6	29.72	754.9	44	6.7	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	Rain & fog	G. T. Watson.
Greenwich (Royal Obs'y)	29.50	749.3	29.67	753.6	47.7	8.7	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.46	748.3	29.68	753.9	49	9.4	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Dr.S.E Hoskins, F.R.S.
Helston	29.63	752.6	29.75	755.6	51	10.6	.....	S	.....	.....	6	.....	10n	.....	.....	0.08	2.0	Raining	M. P. Moyle.
Holyhead	29.48	748.8	29.49	749.0	48	8.9	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.43	747.5	29.73	755.1	46.6	8.1	.....	SSW	.....	.....	3	.....	10	.....	.....	Blank	Blank	Foggy	J. Fisher.
Kew (Observatory)	29.63	752.6	29.67	753.6	47.8	8.8	.....	S	10	4.5	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester (Museum)	29.35	745.5	29.61	752.1	38.5	3.6	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.73	755.1	29.80	756.9	55	12.8	.....	NE	.....	.....	2	.....	10kn	.....	.....	.....	.....	Showery	A. King.
Nairn	29.14	740.1	29.24	742.7	44	6.7	.....	SW	.....	.....	4	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.22	767.6	74.5	23.6	.....	SW	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.44	747.8	29.63	752.6	49.5	9.7	.....	SSW	.....	.....	3	.....	10cs	.....	SW	0.010	0.25	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.07	738.4	29.59	751.6	47.0	8.3	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.41	747.0	29.66	753.4	48	8.9	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	H. E. Bellamy.
Plymouth	29.49	749.0	29.57	751.1	49.0	9.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
*Roche's Point	29.23	742.4	29.32	744.7	46	7.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	29.32	744.7	29.48	748.8	46	7.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.15	740.4	43.2	6.2	.....	SW	32	14.3	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.10	764.5	30.16	766.1	42.8	6.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Serg't W. H. Lyne.
Sheffield	29.33	745.0	29.61	752.1	48.5	9.2	.....	SW	.....	.....	1	.....	8	.....	.....	0.16	4.1	Overcast	W. F. Cooper.
Silloth Rectory	29.30	744.2	29.33	745.0	43.2	6.2	79	W	.....	.....	6	.....	0	.....	.....	0 413	10.49	Blue sky	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.52	749.8	45.6	7.6	.....	.....	8	3.6	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.45	748.0	29.67	753.6	48.4	9.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.42	747.3	29.47	748.5	50	10.0	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	29.33	745.0	29.35	745.5	47.6	8.7	.....	S	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.84	757.9	29.88	758.9	84.0	28.9	54	SSE	6.6	3.0	.....	1c	2ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2	.....	.....	93	33.9	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.70	678.2	.....	.....	82	27.8	.....	S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.98	761.5	71.0	21.7	66	S	.....	.....	2	.....	0	.....	.....	0	0	Star light	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.45	748.0	47.9	8.8	.....	SW	.....	.....	4	.....	3k	.....	.....	0.60	15.2	Fine	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.03	762.6	80.0	26.7	69	E	18 0	8.0	.....	5	4	W	E	0.11	2.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	74.4	23.6	63	Calm	0	0	.....	.....	4	.....	.....	0	0	Hazy	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.17	740.9	46	7.8	.....	WSW	.....	.....	8	5	5	W	.....	0.7	18.	.....	.....
North Unst, Shetland Is	.....	.....	28.88	733.5	.....	.....	.....	SW	.....	.....	7	10	10	.....	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 46° 50′ W. 39° 23′	.....	.....	29.97‡	761 2‡	54.8	12.7	N	.....	5	.....	10	.....	.....	.....	.....	Foggy	Capt. Thos. Young.
City of Cashmere, S. 24° 45′, W. 33° 06′	.....	.....	30.10‡	764 5‡	78 2	25.7	ENE	.....	5	.....	6	.....	.....	.....	.....	Showery	Capt. W. M. Grieve
Bute Fylde, N. 32° 20′, W. 50° 00′	.....	.....	30.21	767.3	66	18.9	SW	.....	6	.....	3	.....	.....	4	WNW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.80‡	756.9‡	72	22.2	E	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell
S. S. Richmond, Off S. end of Long Island, Bahamas	.....	.....	30.21	767.3	78	25.6	ESE	.....	6	.....	4	.....	.....	4	E	Misty	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 20° 08′ E. 70° 16′	.....	.....	30.05	763.3‡	78	25.6	ESE	.....	6	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	61.7	16.5	84	NE			2	1c	0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.92	759.9	29.97	761.1	36.1	2.3	77	SSW			2		4						
Fanöe	29.79	756.6	29.81	757.1	36.9	2.7	84	SSW			4		10						
Godthaab (Greenland)	29.33	744.9	29.37	746.0	— 7.4	—21.9	100	NW			3		10						
Stykkisholm (Iceland)	28.50	723.8	28.54	724.9	21.9	— 5.6	96	NE			3		10						Snowing
Thorshavn (Faröe)	28.63	727.1	28.66	728.0	41.4	5.2	66	W			3		4						
Vestervig	29.60	751.8	29.71	754.6	37.2	2.9	96	S			7		10						Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.81	744.4	29.86	758.4	47.3	8.5	94	S			1		10			0.071	1.8	Raining	Collignon, Director.
Amiens, Normal School	29.72	754.8	29.83	757.6	42.4	5.8	97	SSE			2		10		Calm	0.130	3.3	Covered	Vaillant, Director.
Arras, Engin'r School	29.58	751.4	29.85	758.1	41.9	5.5	93	S			4		10n		SSW			Light rain	Klein, Commandant.
Avignon, Normal School	29.98	761.5	30.06	763.5	52.2	11.2	87	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.41	747.1	29.98	761.5	48.7	6.5	85	S			1		5cn			0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.59	751.6	29.86	758.5	48.7	6.5	90	SSE			1		10		SSW	0.010	0.25	Covered	Frère Eugene Marie.
Besançon, Normal School	29.14	740.2	30.08	763.9	33.6	0.9		NE			1		0			0	0	Clear	A. Carré, Director.
Bordeaux	29.74	755.3	29.93	760.3	50.9	10.5	94	SE			1		8			0.059	1.50	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.20	741.8	30.11	764.8	39.9	4.4	67	E			1	5c				0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.41	747.1	29.99	761.8	46.4	8	94	S			1		10cs		S	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.43	747.4	29.67	753.6	50.7	10.4	92	S			3		10		SSW	0.177	4.50		Ch. de Rermaree, Dir.
Caen, Normal School	29.67	753.7	29.75	755.7	50.7	10.4	95	S					10		SSW	0.12	3.	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.52	749.7	29.94	760.4	58.6	14.8	83	E			1		1		E	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch	29.65	753.1	29.98	761.5	44.4	6.9	69	SE			1		2			0	0	Slightly cld'y	Jadot, Director
Chartres, Normal School	29.27	743.4	29.85	758.1	48.2	6.2	88	SE			3		10					Raining	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.61	726.8	29.97	761.2	55.0	12.8	42	E			1		2			0	0		Allnard, Director.
Commercy, Normal School	29.14	740.1	30.03	762.8	34.5	1.4	74	E			2	5c		N	N	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.95	735.4	30.10	764.4	58.1	14.5	18	N			1		0			0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.28	743.8	30.08	764.1	38.1	3.4		E			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.70	754.3	29.91	759.7	53.2	11.8	93	S			1		10			0	0	Covered	Moutillot, Director.
Le Mans, Normal School	29.57	751.1	29.88	759.0	48.2	9	97	SSW			2		10		SW	0.091	2.3	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.20	741.7	30.14	765.5	37.9	3.3	63	NW			1		0			0	0	Clear	A. Baudry, Director
Lorient, Naval Observatory	29.65	753.1	29.76	755.9	49.6	9.8	97	S			6		10		SW	0.488	12.4	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.43	747.6	30.08	763.9	40.5	4.7	66	SE			1		0			0	0	Clear	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.76	755.8	30.02	762.6	57.4	14.1	53	SW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.95	735.3	30.04	762.9	35.6	2	67	S			1		0			0	0	Clear	Barbier, Director.
Mont-Louis	24 79	629.6	30.10	764.6	39.0	3.9	40	WSW			6		1		W	0	0		M. Cave, for Dr. Fines.
Nice	30.00	762.1	30.04	762.9	56.5	13.6	62	SW			2		1	S	SW	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.84	757.8	30.04	763.1	59.2	15.1	58	S			1		0			0	0	Clear	M. Boyer, Director.
Perpignan	29.94	760.4	30.04	763.1	51.6	10.9	60	SE	8.8	1.7			1			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.44	570.1			31.1	— 0.5							5		SW	0.059	1.5	Cloudy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.01	736.9	30.17	766.2	37.0	2.8	85	S			1		0			0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.09	637.2			37.6	3.1	79	WSW			3		2			0	0		Allnard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	58.1	11.7	96	S			3		10	S	S	0.20	5.	Covered	Lt E. Decante, Director
Rouen, Normal School	29.74	755.4	29.83	757.6	47.5	8.6	82	SE			1		10			0.043	1.1	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.69	754.2	29.72	754.9	52.7	11.5	77	S			3		10	SSW	SSW	0.315	8.00	Light rain	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.5	29.91	759.7	42.4	5.8	89	S			2					0	0		E. Renou, Director.
Tarbes, Normal School	28.92	734.6	30.00	762.0	62.6	17	61	W			1					0.002	0.05		T. Huguet, Director
Toulouse, Observatory	29.31	744.4	30.03	762.8	56.8	13.8	71	SE			1		2			0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	29.71	754.5	29.90	759.5	47.1	8.4	94	SSW			2		10		SW	0.039	1.0	Covered	M. de Tastes.
Versailles, Observatory	29.41	747.1	29.91	759.6	42.4	5.8	97	SW			1		10			0.027	0.68	Covered	Dr. A. Bertgny, Director
Villefranche-sur-Saone, N.S	29.34	745.2	30.08	763.9	42.3	5.7	89	E			1		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	762.9	30.07	763.6	74.1	23.4										0.55	14.		L'Abbé Marchési.
Paris, Montsouris Obs'y	29.02	752.3			41.4	5.2	98	S			1		10			0.026	0.7	Sprinkling	Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.11	764.8	30.13	765.4	36.6	2.5	91	WNW	17.2	7.7			10n			0.543	13.8	Covered	Marc Dechevrens, S. J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse, at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,580.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.24	742.7	30.10	764.6	23.0	— 5.0	76	SE			2		4s			0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.92	760.0	30.10	764.5	38.5	3.6	60	SE			2		0			0	0		Prof. Dr. Arndt.
Breslau	29.71	754.5	30.24	768.1	33.4	0.8	80	SE			3		0			0	0		Royal University Obs'y
Carlsruhe	29.62	752.4	30.07	763.8	31.6	— 0.2	73	SW			0		0			0	0		Albert Senz.
Cassel	29.48	748.8	30.09	764 3	33.8	1.0	82	SE			0		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.78	756.3	30.16	766.0	34.7	1.5	57	NE			0		1			0	0		Physical Society.
Friedrichshafen	28.64	727.6	30.18	766.6	23.0	— 5.0	93	SW			3		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	29.93	760.3	30.00	762.1	41.4	5.2	61	SSE			2		6			0	0		Dr. Reinhold Kleeman.
Kiel	29.93	760.3	29.95	760.7	39.2	4.0	72	S			2		7			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.21	767.2	30.29	769.4	32.9	0.5	88	S			6		10			0	0		Prof. E. Luther.
Köslin			30.14	765.6	37.2	2.9		S			2		0			0	0		H. Müller.
Leipsic Observatory	29.73	755.1	30.17	766.2	38.8	3.8	40	SE			1		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.85	758.3	30.08	764.1	35.8	2.1	64	SE			5		0			0	0	Light fog	Dr. Assmann.
Memel	30.24	768.0	30.28	769.2	30 9	— 0.6	94	SW			5		10n						Reinbrecht & Issermann
Munich (München)	28.24	717.2	30.10	764.6	24.6	— 4.1	82	N			2		0			0	0		Dr. C. Lang.
Neufahrwasser	30.24	768.1	30.26	768.5	34.3	1.3	87	S			5		10			0	0	Foggy	A. Lothes.
Neustadt (Palatinate)	29.52	749.8	30.05	763.2	34.3	1.3	98	Calm			0		0			0	0		Reallehrer Dicknether.
Posen	29.94	760.5	30.24	768.2	34 3	1.3	73	SE			4		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.53	750.0	30.11	764.8	27.5	— 2.5	94	Calm			0		5			0	0		Imp. University Observatory.
Stuttgart	29.10	739.0	30.07	763.8	36.9	2.7	53	E			1		0			0	0		Prof. Dr. Schoder.
Thorn	30.13	765 2	30.32	770.1	34.0	1.1	76	SE			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.56	725.5	30.14	765.6	33.1	0.6	72	SE	0.7	0.3						0	0		Reallehrer J. Hopfner.
Wustrow	30.00	762.0	30.02	762.6	37.4	3.0	93	SE			3		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.4	30.02	762.6	46.0	7.8		NE			6.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.6	30.00	762.0	64.8	18.2	41	W	10	4.5			6	SW		0	0	D. clouds	
Deesa	29.45	748.1	29.93	760.2	78.7	25.9	22	WNW	8.4	3.8			0			0	0	Misty	
Bombay	29.84	757.9	29.88	758.9	76.0	24.4	64	NNW	20	8.9			6	W	WNW	0	0	D. clouds	
Poona (Yarrowda)	28.00	711.1	29.83	757.6	86.0	30.0	16	WNW	2	0.9			8		W	0	0	D. clouds	
Belgaum	27.34	694.5	29.86	758.4	80.6	27.0	43	W	5	2.2			1	SW		0	0	D. clouds	
Lahore	29.17	740.9	29.94	760.5	62.6	17.0	39	Calm	0.8	0.4			10			0	0	Overcast	
Roorkee	28.99	736.4	29.92	760.0	64.8	18.2	40	W	4.8	2.2			10			0	0		
Agra	29.38	746.3	29.97	761.1	67.8	19.9	30	W	4.2	1.9			0			0	0		
Nagpur	28.82	731.9	29.85	758.2	86.7	30.4	28	SW	2.6	1.2			3	W		0	0	D. clouds	
Jubbulpore	28 54	725.0	29.92	760.0	74.6	23.7	22	ENE	1.7	0.8			4			0	0	D. clouds	
Lucknow	29.55	750.6	29.94	760.6	65.3	18.5	47	Calm	1.7	0.8			0			0	0	Blue sky	
Allahabad	29.63	752.6	29.96	760 9	65.4	18.6	47	Calm	3.2	1.4			0			0	0	Blue sky	
Patna	29.75	755.6	29.93	760.3	71.3	21.8	26	W	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.88	708.1	29.93	760.2	68.8	20.4	32	W	6.6	3.0			0			0	0	Blue sky	
Cuttack	29.85	758.1	29.93	760.2	80.7	27.1	60	S	2.3	1.0			0			0	0	Blue sky	
Calcutta (Alipore)	29.90	759.5	29.92	760.1	74.1	23.4	59	W	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.52	749.9	29.92	760.1	69.7	20.9	34	Calm	1.0	0.4			0			0	0	Blue sky	
Chittagong	29.85	758.3	29.94	760 6	73.6	23.1	85	WSW	4.6	2.1			0			0	0	Misty	
Sibsagar	29.62	752.4	29.97	761 3	63.4	17.4	75	ENE	1.4	0.6			7	SSW	SSW	0	0	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.71	754.5	30.13	765.3	49.3	9.6	19	SE	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.56	750.9	30.10	764.6	44.1	6.7	63	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29 99	761.7	30.10	764.6	46.4	8.0	37	NE	5.6	2.5	.....	.....	9	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.19	741.3	30.13	765.2	41.7	5.4	56	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	757.8	30.03	762.8	54.3	12.4	18	N	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.17	715.4	30.14	765 5	44.1	6.7	27	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.03	762.7	30.08	764.0	42.8	6.0	56	NW	16.1	7.2	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.76	755.8	30.02	762 6	55.4	13.0	16	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.3	30.02	762.6	54.3	12.4	23	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.79	756.7	29.97	761.3	53.1	11.7	35	N	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.71	754.5	29.97	761.1	55.0	12.8	66	NNW	12.5	5.6	.....	.....	7	N	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cosenza	29.06	738.1	29.97	761.2	52.2	11.2	73	NW	7.4	3.3	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.73	755.2	29.93	760.3	56.1	13.4	53	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.67	753.5	29.92	760.0	54.9	12.7	64	NE	4.3	1.9	.....	.....	7	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.78	756.3	29.82	757.4	53.4	11.9	73	ENE	9.8	4.4	.....	.....	10	NE	.....	0.209	5.3	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.6	29.95	760.8	53.1	11.7	39	ENE	4.9	2.2	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.10	764.5	30.11	764.8	46.4	8.0	97	Calm	0	0	.....	.....	10n	.....	.....	0.816	20.73	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.85	758.2	30.06	763.5	49.8	9.9	89	N	2.5	1.1	.....	.....	10n	.....	.....	0.830	21.08	Light rain	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.11	764.8	30.19	766.8	41.9	5.5	96	NE	3.5	1.6	.....	.....	10ns	.....	.....	0.060	1.52	Light rain	The Staff.
Wakayama	30.02	762.5	30.07	763.8	52.1	11.2	89	ENE	0.8	0.4	.....	.....	10n	.....	.....	0.510	12.95	Raining	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	25.11	637.8	30.35	770.9	39.2	4.0	51	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	R. Banda, C. E.
Guadalajara	24.51	622.6	30.34	770.5	50.0	10.0	83	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.51	622.6	30.34	770.5	50.0	10.0	83	S	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.83	757.6	30.10	764.4	54.7	12.6	67	NW	.....	.....	2	0	0	.....	.....	0	0	Very clear	F. Quijano, C. E.
Mexico, Central Observatory	23.11	587.1	30.31	769.9	42.8	6.0	77	SW	1.1	0.5	.....	10k	0	.....	.....	0	0	Covered	The Staff
Morelia	24.18	614.1	.....	.....	54.3	12.4	42	SW	.....	.....	5	5c	8k	SE	NE	0	0	Cloudy	M. Fena, M. D.
Pabellon (Aguascalientes)	24.00	609.7	30.12	765.0	44.4	6.9	78	SW	.....	.....	1	0	0	.....	.....	0	0	Very clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	596.3	30.41	772.5	42.6	5.9	53	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.40	772.1	47.1	8.4	76	SE	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.15	765.7	30.16	766.0	65.3	18.5	81	N	.....	.....	4	5	4	NE	N	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	30.18	766.5	30.21	767.2	66.2	19.0	72	NW	6.7	3.0	.....	.....	8ks	.....	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.82	757.5	29.82	757.5	43.3	6.3	.....	S	.....	.....	4	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	29.82	757.5	29.88	758.9	43.9	6.6	.....	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.80	757.0	29.80	757.0	41.4	5.2	.....	S	.....	.....	4	.....	.....	.....	.....	0.106	2.7	.....	
Hellevoetsluis	29.84	758.0	29.84	758.0	43.3	6.3	76	SSE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	29.83	757.7	29.88	758.9	44.1	6.7	66	SSE	.....	.....	2	.....	5	.....	.....	0.008	0.2	Cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.27	743.4	29.32	744.8	44.6	7.0	82	S	28.4	12.7	.....	.....	8	.....	.....	0.087	2.2	Raining.....	
Brönö	29.00	736.7	29.04	737.7	40.6	4.8	59	S	22	10	.....	.....	9	.....	.....	0.079	2.0	.....	
Christiana	29.37	746.1	29.52	749.9	38.1	3.4	93	SSW	20	9	.....	.....	10	.....	.....	0.083	2.1	.....	
Tromsö	29.12	739.7	29.17	740.8	27.0	— 2.8	76	WSW	25	11	.....	.....	10	.....	.....	0.083	2.1	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.5	30.17	764.8	61.5	16.4	58	WSW	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.17	766.3	30.26	768.5	64.4	18.0	57	NE	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.78	756.5	30.15	765.7	58.1	14.5	71	SSW	17.4	7.8	.....	.....	7	WSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.16	766.1	30.23	767.9	56.1	13.4	66	NW	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa N. 14° 59′, W. 23° 10′	.....	.....	.....	.....	78.8	26.0	.....	NE	.....	.....	3	.....	4	.....	NE	3	NNE	D. clouds.....	A.de SouzaRoza, 2ndL't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, St. Paul de Loando	.....	.....	29.85	758.1	80.6	27.0	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast. 2 minutes rain-fall.]	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.19	766.7	62.8	17.1	.....	N	.....	.....	5	.....	10	.....	N	2	N	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.71	754.5	29.72	755.0	13.6	—10.2	97	WNW	22	10	.....	10cp	2ks	.....	.....	.....	.....	Snow-drift *	Capt. Sseliwerstow.
Astrakhan	30.09	764.2	30.00	762.1	24.6	— 4.1	89	W	22	10	.....	.....	.....	.....	.....	.....	.....	Heavy clouds....	Capt. Wisganow.
Barnaul	29.30	745.7	29.48	759.0	26.8	— 2.9	100	SW	31	14	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	29.99	761.8	30.25	768.3	31.5	— 0.3	76	SSW	7	3	.....	.....	5cs;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	27.86	707.7	28.83	732.3	25.7	— 3.5	91	WSW	31	14	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.14	740.2	29.42	747.3	19.6	— 6.9	44	NNW	27	12	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.28	769.2	30.30	769.7	38.5	3.6	100	NNW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.65	753.2	30.33	770.3	30.7	— 0.7	66	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkówo*	29.05	737.9	29.55	750.5	22.8	— 5.1	75	N	11	5	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.95	760.6	30.16	766.0	29.5	— 1.4	80	WNW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.54	750.4	30.13	765.3	23.0	— 5.0	55	NNW	10.1	4.5	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.09	713.5	30.73	780.6	—10.5	—23.6	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.29	769.3	30.36	771.1	24.3	— 4.3	95	NNE	7	3	.....	.....	10n	.....	.....	.....	.....	Foggy	Kurdakof.
Nukuss	29.93	760.1	30.17	766.2	37.4	3.0	68	SSW	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.18	766.5	30.32	770.1	27.1	— 2.7	85	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.17	766.3	30.19	766.7	28.8	— 1.8	72	W	9	4	.....	.....	10ks;n	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.75	730.2	30.44	773.2	25.2	— 3.8	91	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.65	727.7	30.10	764.6	44.4	6.9	43	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.91	759.6	30.35	771.0	32.7	0.4	89	SE	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.96	760.9	30.40	772.2	29.8	— 1.2	96	SSW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	29.64	752.8	29.95	760.8	7.0	—13.9	67	WSW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.00	762.0	30.11	764.7	54.5	12.5	58	SE	2.1	0.94	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.2	29.95	760.6	59.5	15.3	58	S	3.5	1.57	.....	.....	10	.....	.....	0.059	1.5	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.5	.....	.....	49.3	9.6	75	S	7.2	3.17	.....	2	6	N	.....	0	0	Cloudy.....	Domingo Martin y Peres.
Madrid, Royal Observatory	27.86	707.7	30.11	764.9	53.2	11.8	69	S	4.5	2.00	.....	3	0	SE	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.94	760.4	30.09	764.3	64.4	18.0	56	S	1.7	0.78	.....	0	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.89	733.8	29.78	756.5	53.8	12.1	73	SSW	33.6	15.0	.....	.....	10	.....	.....	0.004	0.1	Covered.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.4	30.20	767.1	67.9	19.9	90	NE	1.3	0.6	.....	0	1k	.....	NNE	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.93	760.1	29.98	761.4	79.5	26.4	76	E	4.4	2.0	.....	.....	.....	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.10	764.6	30.20	767.1	60.8	16.0	61	Calm	0	0	.....	0	2	.....	NE	0	0	.....	
San Juan de Porto Rico, W. I.	30.08	763.9	30.17	766.2	72.3	22.4	86	E	10.7	4.80	.....	5skn	4kn	E	E	0.020	0.50	Cloudy.....	Capt. C. Pulazon, R. N., Dir. Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.8 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.65	753.0	29.65	753.0	19.4 — 7.0			SE			4		10					Snowing	
Umea	29.46	748.2	29.51	749.5	33.8 1.0		92	SW			7		10			0.016	0.4		
Hernosand	29.45	747.9	29.50	749.2	34.9 1.6		89	S			7		10			0	0		
Stockholm	29.71	754.5	29.68	759.0	34.5 1.4		82	SSW			7		10			0	0		
Wisby	29.90	759.5	29.96	761.0	34.9 1.6		85	SW			6		5			0	0		
Sub-Series.																			
Upsala	29.69	754.1	29.78	756.3	35.2 1.8		78	S	24.2	10.8			10	W		0	0		Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 10° 03′, W. 80° 39′			29.96‡	760.9‡	79.2	26.2		NE			4		4					D. clouds	A. C. Schonmeyr. Capt. M. von Krusenstierna.
H. M. Corvette Saga																			

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.4	30.20	767.0	23.7 — 4.6		100	NNW			2		10			0	0	Foggy	The Observatory.
Zurich	28.43	722.0	30.10	766.0	27.7 — 2.4		77	W			1		2			0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer, —7.4 Cent. Relative Humidity, +26 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.21	767.3	42.4	5.8	76	NNE	8	3.5			10			0	0		The Observatory.
Fao, Persian Gulf																			
Valona			29.95	760.7	56.8	13.8		SE			1		2			0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			29.99	761.8	61.9	16.6	53	N			1		5cs			6	0		Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.19	766.8	30.20	767.1	0 —17.8			W	1	0.4		0	0			0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.15	765.8	30.22	767.6	— 7.8 —22.1		92	W	1	0.4		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.15	765.8	30.19	766.8	5.6 —14.7		81	W	5	2.2		0	0			0.02	0.5	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.98	761.5	30.19	766.8	3.6 —15.8		100	W			1	7cs	8s	W		0	0	Fair	James Smith, M. A.
Dalhousie, N. B	30.04	763.0	30.23	767.8	— 4.5 —20.3			W			1	0	0			0	0	Clear	H. A. Johnson.
Father Point, Quebec					1.0 —17.2		80	NW	13	5.8		0	5s			0	0	Fair	J. McWilliams.
Fredericton, N. B	30.22	767.6	30.30	769.6	—11.9—24.4		100	Calm	0	0		0	0			0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.37	746.0	30.31	769.9	— 6.0 —21.1		93	SW	3	1.3				10n		0	0	Cloudy	James Stewart.
Granton, Ontario	28.91	734.3	30.08	764.0	24.0 — 4.4		100	W			1			10n		0.10	2.5	Snowing	James Grant.
Halifax, N. S	30.12	765.0	30.26	768.6	12.0 —11.1		94	W	5	2.2			9cs	0	NW	0.090	2.29	Fair	A. Allison.
Hamilton, Ontario	29.71	754.6	30.10	764.5	23.8 — 4.8		85	W			1		10cs	0	W	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F																			E. Weedon.
Kingston, Ontario	29.79	756.7	30.16	766.1	16.8 — 8.4		93	SE	4	1.8				10n		0.04	1.0	Light snow	S. Woods, M. A.
Little Glace Bay, N. S	30.07	763.8	30.12	765.0	10.8 —11.8		90	NW	5	2.2			6k	0	NW	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.90	761.7	30.21	767.3	10.0 —12.2		79	S	8	3.6				Sm'e		0	0	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	30.13	765.3	30.17	766.3	—25.3—31.8		91	SW			3	0	2s			0	0	Clear	J. R. Nelson.
Norwood, Ontario	29.31	744.5	30.06	763.5	14.7 — 9.6		100	NE	7	3.1				10s		0.10	2.5	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.46	748.3	30.23	767.8	8.3 —13.2		89	N	7	3.1				10n		0.06	1.5	Light snow	Rev. R. Mosley.
Peterboro, Ontario	29.30	744.2	30.12	765.0	16.0 — 8.9		74	NW			2			10n				Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	29.84	758.3	30.06	763.5	31.0 — 0.6		100	W	11	4.9				10n		0.10	2.5	Light snow	H. Morgan.
Port Stanley, Ontario	29.45	748.0	30.13	765.3	25.7 — 3.5		92	W	28	12.5				10n		0.17	4.3	Light snow	M. Payne.
Quebec, Quebec	29.90	759.4	30.26	768.6	— 2.0 —18.9		68	NW			1			10n		0.10	2.5	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.70	754.4	30.21	767.3	4.8 —15.4		69	Calm	0	0				9s		0	0	Cloudy	W. H. McIntyre.
St. John, N. B	30.11	764.8	30.29	769.4	8 —13.3		100	NW	9	4.0				0		0.10	2.5	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.45	748.0	30.23	767.8	19.0 —10.6		96	N	25	12.2				10s		0.10	2.5	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.72	729.5	30.10	764.5	17.3 — 8.2		95	NW	18	8.0			2cs	8s	NW	0.20	5.1	Fair	C. J. MacGregor, M. A.
Sydney, C. B	30.08	764.0	30.12	765.0	12.3 —10.9		71	NW	13	5.8			1k	0	W	0.04	1.0	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.66	753.4	30.06	763.5	27.2 — 2.7		90	N	8	3.6				10n		0.070	1.78	Light snow	Magnetic Observatory
Windsor, N. S	30.12	765.0	30.21	767.3	18.5 —10.8		100	NW	8	3.6			9k	0		0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	28.97	735.8	30.09	764.3	25.9 — 3.4		91		17	7.6				10s		0.20	5.1	Cloudy	Professor Wolverton.
Yarmouth, N. S	30.23	767.8	30.27	768.8	18.7 — 7.4		72	NW	7	3.1			3ck	6s	W	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.63	752.6	29.89	759.2	23 — 5.0		86	N				0	5s			0.10	2.5	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime			29.88	758.9	20.1 — 6.6			NW			4					0	0		The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.02	762.5	30.28	769.1	10	—12.2	79	Calm	0	0	.....	8ck	Fog	W	Calm	0	0	Fair	
Alpena, Michigan	29.64	752.8	30.35	770.9	10	—12.2	79	W	12	5.4	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.28	743.7	30.51	774.9	35	1.7	61	W	9	4.0	.....	Haze	1s	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	30.28	769.1	30.30	769 6	35	1.7	80	W	8	3.6	.....	5cs;ck	0	W	.....	0	0	Fair	
Augusta, Georgia	30.32	770.1	30.54	775.7	32	0.0	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Baltimore, Maryland	30.27	768.8	30.32	770.1	31	— 0.6	69	W	2	0.9	.....	0	2ks	.....	SW	0	0	Clear	
Barnegat, New Jersey	30.23	767.8	30.26	768.6	34	1.1	90	W	13	5.8	.....	2c	2s	W	W	0	0	Fair	
Bismarck, Dakota	28.30	718.8	30.15	765.8	6	—14.4	88	SE	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	29.00	736.6	30.40	772.1	38	3.3	91	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.29	693.2	30.25	768.3	29.5	— 1.4	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.16	766.1	30.32	770.1	22	— 5.6	72	Calm	0	0	.....	2k	5s	W	Calm	0	0	Fair	
Brackettville, Texas	29.34	745.2	30.48	774.2	37	2.8	100	E	3	1.3	.....	.....	10n	.....	Calm	0.96	24.4	Light rain	
Breckenridge, Minnesota	29.25	742.9	30.40	772.1	— 5	—20.6	100	S	8	3.6	.....	0	2s	.....	Calm	0	0	Fair	
Brownsville, Texas	30.34	770.6	30.38	771.6	47	8.3	100	N	12	5.4	.....	.....	10n	.....	Calm	0.24	6.1	Light rain	
Buffalo, New York	29.30	744.2	30.03	762.7	29	— 1.7	89	SW	22	9.8	.....	.....	10n	.....	Calm	0.06	1.5	Heavy snow	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.93	760.2	30.25	768.3	12	—11.1	80	SE	3	1.3	.....	8ck	0	W	.....	Inap.	Inap.	Fair	
Cairo, Illinois	30.17	766 3	30.58	776.7	36	2.2	61	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.60	701.0	30.17	766.3	26	— 3.3	75	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.44	773.2	30.45	773.4	40	4.4	82	NE	4	1.8	.....	0	0	.....	.....	0.13	3.3	Clear	
Cape Henry, Virginia	30.35	770.9	30.37	771.4	37	2.8	67	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.45	773.4	30.46	773.7	39	3.9	82	N	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
Cape May, New Jersey	30.28	769.1	30.31	769.9	41	5.0	65	SW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.72	754.9	30.48	774.2	40	4.4	91	N	4	1.8	.....	.....	10s	.....	Calm	0.39	9.9	Threatening	
Cedar Keys, Florida	30.38	771.6	30.40	772.1	47	8.3	70	NE	14	6.3	.....	0	9s	.....	SW	0	0	Cloudy	
Charleston, South Carolina	30.42	772.7	30.48	774.2	42	5.6	93	N	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Charlotte, North Carolina	29.54	750.3	30.42	772.7	32	0.0	89	SW	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.66	753.4	30.52	775.2	35	1.7	53	SW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	9	—12.8	57	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.75	755.6	30.52	775.2	15	— 9.4	65	NW	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear	
Cincinnati, Ohio	29.74	755.4	30.43	772.9	39	3.9	46	W	7	3.1	.....	0	5ks	.....	N	0	0	Fair	
Cleveland, Ohio	29.46	748.3	30.23	767 8	29	— 1.7	89	W	27	12.1	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.43	747.5	30.31	769.9	34	1.1	70	W	16	7.2	.....	.....	10ks	.....	W	0	0	Cloudy	
Concho, Texas	28.54	724.9	30.36	771.1	32	0.0	89	Calm	.....	.....	0	5k	0	Calm	.....	Inap.	Inap.	Fair	
Corsicana, Texas	30.04	763.0	30.54	775.7	38	3.3	54	N	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.87	758.7	30.59	777.0	14	—10.0	72	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	31	— 0.6	79	NE	.....	.....	1	Haze	5s	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.42	645.7	.....	.....	25	— 3.9	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.35	745.5	30.59	777.0	42	5.6	66	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.69	754.1	30.54	775.7	35	1.7	70	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.90	632.4	30.12	765.0	6	—14.4	76	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.62	752.3	30.60	777.2	11	—11.7	80	Calm	0	0	.....	0	Sm'e	.....	Calm	0.01	0.3	Clear	
Detroit, Michigan	29.58	751.3	30.30	769.6	21	— 6.1	86	NW	14	6.3	.....	.....	10s	.....	NW	0.16	4.1	Cloudy	
Dodge City, Kansas	27.78	705.6	30.26	768.6	22	— 5.6	58	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.81	757.2	30.62	777.7	5	—15.0	50	W	1	0.4	.....	0	Fog	.....	Calm	0.10	2.5	Foggy	
Duluth, Minnesota	29.68	753.9	30.46	773.7	— 5	—20.6	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.73	755.1	30.51	774.9	43	6.1	83	SE	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	30.21	767.3	30.29	769.4	10	—12.2	58	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Edinburg, Texas	.....	.....	.....	.....	42	5.6	91	N	.....	.....	4	.....	10s	.....	Calm	0.03	0.8	Rainy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.37	746.0	30.11	764.8	32	0.0	89	SW	15	6.7	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Escanaba, Michigan	29.71	754.6	30.46	773.7	— 3	—19.4	66	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.66	728.0	30.26	768.6	40	4.4	65	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, New Mexico	.....	.....	.....	.....	39	3.9	81	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.97	710.4	29.94	760.5	12	—11.1	80	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Custer, Montana	26.56	682.2	.....	.....	23	— 5.0	86	SW	9	4.0	.....	0	5s	.....	Calm	0	0	Fair	
Fort Davis, Texas	25.42	645.7	30.38	771.6	18	— 7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.94	760.5	30.53	775.4	26	— 3.3	75	Calm	0	0	.....	0	0	.....	.....	.....	0	Clear	
Fort Grant, Arizona	25.37	644.4	30.17	766.3	31	— 0.6	28	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.22	742 2	30.58	776.7	28	— 2.2	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.34	694.4	.....	.....	10	—12.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.15	715.0	30.22	767.6	30	— 1.1	78	W	1	0.4	.....	.....	10s	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.23	742 4	30.44	773.2	26	— 3.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.24	717.3	.....	.....	1	—17.2	71	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona	.....	.....	.....	.....	18	— 7.8	68	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.67	728.2	30.34	770 6	36	2.2	53	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.48	774.2	30.53	775.4	45	7.2	68	N	11	4.9	.....	.....	10n	.....	Calm	0.33	8.4	Light rain	
Graham, Texas	29.41	747.0	30.57	776.5	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.72	754.9	30.42	772.7	22	— 5.6	86	NW	13	5.8	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.55	750.6	30.57	776.5	27	— 2.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.63	752.6	30.47	773.9	24	— 4.4	61	NW	8	3.6	.....	0	2ks	.....	NW	0	0	Clear	
Indianola, Texas	30.48	774.2	30.51	774.9	43	6.1	100	N	23	10.3	.....	.....	10s	.....	N	0.39	9.9	Light rain	
Jacksboro, Texas	29.27	743.4	30.59	777.0	30	— 1.1	78	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.42	772.7	30.45	773.4	46	7.8	69	N	8	3.6	.....	Haze	5s	.....	Calm	0	0	Fair	
Keokuk, Iowa	29.88	758.9	30.57	776.5	19	— 7.2	77	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.18	766.6	30.21	767.3	72	22.2	85	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.42	772.7	30.44	773.2	39	3.9	82	S	7	3.1	.....	0	0	.....	.....	0.06	1.5	Clear	
Knoxville, Tennessee	29.45	748.0	30.53	775.4	30.5	— 0.8	74	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.72	754.9	30.57	776.5	1	—17.2	71	S	3	1.3	.....	0	0	.....	.....	0.02	0.5	Clear	
La Mesilla, New Mexico	26.34	669.0	30.48	774.2	18	— 7.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.02	762 5	30.39	771.9	45	7.2	100	NE	5	2.2	.....	.....	10s	.....	NE	1.10	27.9	Cloudy	
Leavenworth, Kansas	29.68	753.9	30.61	777.5	23	— 5.0	73	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lewiston, Idaho	.....	.....	.....	.....	27	— 2.8	77	W	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
Little Rock, Arkansas	30.22	767.6	30.61	777.5	34	1.1	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.84	757.9	30.19	766.8	42.0	5.6	62	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.84	757.9	30.43	772.9	36	2.2	53	W	11	4.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.66	753.4	30.39	771.9	31	— 0.6	63	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.41	747.0	30.5	775.2	6	—14.4	76	NW	6	2.7	.....	0	0	.....	.....	0.35	8.4	Clear	
Marquette, Michigan	29.63	752.6	30.42	772.7	0	—17.8	70	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.80	731.5	30.08	779.3	38	3.3	81	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	30.18	766.6	30.54	775.7	38	3.3	54	W	8	1.3	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.68	753.9	30.51	774.9	5	—15.0	75	W	10	4.5	.....	0	1s	.....	Calm	0 09	2.3	Clear.	
Mobile, Alabama	30.45	773.4	30.50	774.7	38	3.3	81	N	7	3.1	.....	5c	5s	W	Calm	0	0	Cloudy.	
Montgomery, Alabama	30.29	769.4	30.54	775.7	35	1.7	80	SE	3	1.3	.....	2c	Fog	W	Calm	0	0	Clear.	
Morgantown, West Virginia	29.24	742.7	30.26	768.6	41	5.0	67	SW	20	8.9	.....	.....	10ks	.....	SW	0	0	Cloudy.	
Mt. Washington, N. H.	23.49	596.6	29.85	758.2	— 2	—18.9	100	NW	36	16.1	.....	.....	Fog	.....	NW	0.19	4.8	Foggy	
Nashville, Tennessee	29.94	760.5	30.52	775.2	32	0.0	69	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.17	766.3	30.30	769.6	24	— 4.4	74	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.	
New London, Connecticut	30.26	768.6	30.32	770.1	24	— 4 4	74	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.	
New Orleans, Louisiana	30.42	772.7	30.48	774.2	47	8.3	55	N	10	4.5	.....	2cs	8s	Calm	Calm	0	0	Cloudy.	
Newport, Rhode Island	30.25	768.3	30.31	769.9	27	— 2.8	64	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
New River, North Carolina	.....	.....	.....	.....	38	3.3	80	NW	.....	.....	1	2cs	0	Calm	.....	.....	.....	Clear	
New York, New York	30.08	764.0	30.27	768.8	32	0.0	60	NE	14	6.3	.....	8ck	Haze	SW	Calm	0	0	Hazy	
Norfolk, Virginia	30.33	770.4	30.39	771.9	36	1.7	80	SW	8	3.6	.....	0	8s	.....	E	0	0	Fair	
North Platte, Nebraska	27.36	694.9	30.18	766.6	15	— 9.4	82	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	34.0	1.1	95	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Omaha, Nebraska	29.29	744.0	30.51	774.9	15	— 9.4	82	NW	1	0.4	.....	0	Sm'e	.....	.....	Inap.	Inap.	Clear.	
Oswego, New York	29.79	756.7	30.13	765.3	25	— 3.9	81	SE	10	4.5	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.	
Pembina, Dakota	29.31	744.5	30.26	768.6	—10	—23.3	100	S	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Pensacola, Florida	30.48	774.2	30.52	775.2	43	6.1	75	N	5	2.2	.....	8cs	Haze	SW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.22	767.6	30.28	769.1	30	— 1.1	78	SW	9	4.0	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	29.94	737.6	30.06	780.4	35	1.7	61	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.65	448.3	29.86	758.4	0	—17.8	89	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.54	750.3	30.41	772.4	40	4.4	66	NE	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	24.10	612.1	29.88	758.9	21	— 6.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.39	746.5	30.23	767.8	35	1.7	80	W	18	8.0	.....	.....	10n	.....	W	Inap.	Inap.	Light snow.	
Port Huron, Michigan	29.53	750.0	30.25	768.3	20	— 6.7	85	NW	18	8.0	.....	.....	10s	.....	Calm	0.11	2.8	Threatening	
Portland, Maine	30.23	767.8	30.28	769.1	17	— 8.3	67	W	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Portland, Oregon	30.05	763.3	30.13	765.3	35	1.7	95	N	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Portsmouth, North Carolina	.....	.....	.....	.....	43	6.1	83	NW	5	2.2	.....	2cs	0	Calm	.....	0.01	0.3	Fair	
Prescott, Arizona	24.89	632.2	30.25	768.3	3	—16.1	73	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.26	768.6	30.28	769.1	61	16.1	88	N	18	8.0	.....	.....	10s	.....	NE	0.25	6.3	Cloudy.	
Red Bluff, California	29.79	756.7	30.17	766.3	35	1.7	80	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	30.31	769.9	30.54	775.7	41	5.0	91	NW	6	2.7	.....	.....	10n	.....	Calm	0.16	4.1	Misting	
Rochester, New York	29.41	747.0	30.06	763.5	20	— 6.7	85	SW	4	1.8	.....	.....	10n	.....	SW	0.02	0.5	Light snow.	
Roseburg, Oregon	29.54	750.3	30.13	765.3	35	1.7	90	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Sacramento, California	30.06	763.5	30.14	765.5	38	3.3	91	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.96	761.0	30.59	777.0	27	— 2.8	76	N	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
St. Paul, Minnesota	29.55	750.6	30.51	774.9	— 5	—20.6	66	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah	25.82	655.8	30.16	766.1	18	— 7.8	53	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.83	757 7	30.45	773.4	40	4.4	100	Calm	0	0	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	
San Diego, California	30.13	765.3	30.21	767.3	42	5.6	58	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.58	751.3	30.29	769.4	28	— 2.2	77	NW	31	13.9	.....	.....	10s	.....	NW	0.01	0.3	Cloudy.	
Sandy Hook, New Jersey	30.22	767.6	30.25	768.3	35	1.7	80	E	12	5.4	.....	5k	0	S	.....	0	0	Fair.	
San Francisco, California	30.11	764.8	30.17	766.3	42	5.6	95	S	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.35	593.1	29.80	759.2	15	— 9.4	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.41	772.4	30.51	774.9	43	6.1	75	N	3	1.3	.....	8ck	2s	SW	Calm	0	0	Cloudy.	
Shreveport, Louisiana	30.32	770.1	30.55	776.0	36	2.2	90	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.44	773.2	30.48	774.2	36	2.3	90	NW	5	2.2	.....	2k	1s	W	Calm	0	0	Fair	
Socorro, New Mexico	25.69	652.5	29.75	755.6	12	—11.1	42	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.87	758.7	30.61	777.5	22	— 5.6	65	NW	11	4.9	.....	0	8s	.....	NW	Inap.	Inap.	Fair.	
Springfield, Massachusetts	30.17	766.3	30.32	770.1	17	— 8.3	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Threatening	
Stockton, Texas	27.31	693.7	30.31	769.9	20	— 1.7	8	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	30.26	768.6	30.32	770.1	27	— 2.8	64	NW	4	1.8	.....	10cs	0	NW	.....	0	0	Threatening	
Toledo, Ohio	29.58	751.3	30.32	770.1	25	—3.9	75	NW	18	8.0	.....	10k	0	W	.....	Inap.	Inap.	Clearing	
Tucson, Arizona	27.68	703.1	30.23	767.8	35	1.7	52	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Umatilla, Oregon	29.78	756.4	30.31	769.9	27	— 2 8	88	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.	
Uvalde, Texas	29.48	748.8	30.33	770.4	40	4.4	91	NE	2	0.9	.....	.....	10s	.....	NE	0.08	2.0	Cloudy.	
Vicksburg, Mississippi	30.28	769.1	30.55	776.0	40	4.4	73	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	24.30	617.2	29.78	756.4	17	— 8.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.74	755.4	30.13	765.3	35.5	1.9	45	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	30.20	767.1	30.33	770.4	29	— 1.7	67	SW	1	0.4	.....	0	1s;fg	.....	Calm	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	24	— 4.4	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.38	771.6	30.46	773.7	36	2.2	80	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear.	
Winnemucca, Nevada	25.72	653.3	30.08	764 0	13	—10.6	81	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.28	769.1	30.32	770.1	27	— 2.8	80	NE	2	0.9	.....	.....	10s	.....	SW	0	0	Threatening	
Yankton, Dakota	29.11	739.4	30.60	777.2	— 1	—18.3	68	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	30.06	763.5	30.21	767.3	38	3.3	54	Calm	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.11	764.8	30.16	766.1	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	75	23.9	78	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.00	762.0	30.08	764.0	76.5	24.7	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	78	E	.....	.....	2	5k	8ks	E	.....	0.030	0.76	½ Cloudy	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.43	747.5	29.98	761.5	84	28.9	61	N	.....	.....	2	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	30.13	765.3	30.16	766.1	74	23.3	72	NNE	3.6	1.6	.....	0	0	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.92	760.0	29.97	761.2	—30.0	—34.4	.....	NW	9	4.0	.....	.....	9s	.....	NW	0.16	4.1	Cloudy.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,017.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,209 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft. or 549(?) m.; Pike's Peak, 14,-150.7 ft., or 4,318.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1 670 (?) m.; Wickenburg, 2,000 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4 15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.46‡	773.4‡	.....	.....	46	7.8	84	NE	9	4.0	.....	.....	5	.....	SE	0	0	.....	.....	Fair.	
Navy Yard, Portsmouth, N. H.	30.25‡	768.3‡	.....	.....	14	—10.0	82	NW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.20‡	767.1‡	.....	.....	42.5	5.8	92	NNE	.....	.....	1	.....	10n	.....	NE	Slight	Slight	.....	.....	Drizzling	
Adams, N. 29° 22′, W. 116° 53′	30.32‡	770.1‡	.....	.....	56	13.3	75	ESE	.....	.....	2	.....	8	.....	ESE	.....	.....	Smooth	SE	Cloudy	
Alaska, Callao, Peru	29.92‡	760.0‡	.....	.....	68	20.0	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.	30.23‡	767.8‡	.....	.....	30	— 1.1	.....	E	.....	.....	1	.....	8	.....	WNW	0	0	.....	.....	Hazy	
Constitution, Aspinwall, Panama	29.94‡	760.5‡	.....	.....	79	26.1	86	NE	.....	.....	5	.....	6	.....	NE	.....	.....	.....	.....	Cloudy	
Enterprise. Genoa, Italy	30.06‡	763.5‡	.....	.....	55	12.8	50	N	.....	.....	5	.....	1	.....	N	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.42‡	772.7‡	.....	.....	38	3.3	91	SSW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.17‡	766.3‡	.....	.....	43	6.1	83	Calm	0	0	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Kearsarge, N. 17° 40′, W. 82° 04′	30.10‡	764.5‡	.....	.....	78	25.6	82	E	.....	.....	3	.....	2	.....	E	.....	.....	Smooth	.....	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.19‡	766.8‡	.....	.....	46	7.8	84	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, S. 25° 50′, W. 44° 15′	29.78‡	755.1‡	.....	.....	79	26.1	86	NE	.....	.....	5	.....	10	.....	NE	Mod ate	Mod'at	Mod'ate Long	NE	Cloudy	
Michigan, Erie, Pa.	30.07‡	763.8‡	.....	.....	31	— 0.6	58	SW	.....	.....	4	.....	10	.....	SW	.....	.....	.....	.....	Snowing	
Monocacy, Shanghai, China	30.09‡	764.3‡	.....	.....	38	3.3	91	WSW	.....	.....	1–2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.48‡	774.2‡	.....	.....	44	6.7	84	NE	6	2.7	.....	.....	8	.....	WSW	0.005	0.13	.....	.....	Cloudy	
Nipsic, Port of Spain, Trinidad, W. I.	30.01‡	762.2‡	.....	.....	79	26.1	70	NNE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds	
Onward, Callao, Peru	29.91‡	759.7‡	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.27‡	768.8‡	.....	.....	39	3.9	19	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.32‡	770.1‡	.....	.....	29	— 1.7	89	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, Callao, Peru	29.93‡	760.2‡	.....	.....	73	22.8	85	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Foggy	
Powhatan, Off Norfolk, Va.	30.36‡	771.1‡	.....	.....	37	2.8	71	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	30.01‡	762.2‡	.....	.....	59	15.0	54	NNW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger. N. 37° 50′, W. 124° 00′	30.13‡	765.3‡	.....	.....	50	10.0	86	SE	.....	.....	3	.....	10	.....	Calm	.....	.....	Smooth	.....	Misty	
Richmond, Hong-Kong, China	29.99‡	761.7‡	.....	.....	65	18.3	100	E	.....	.....	2	.....	10	.....	.....	0.05	1.3	Sm-oth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.58‡	776.7‡	.....	.....	44	6.7	92	NNW	6	2.7	.....	.....	10	.....	NW	0.46	11.7	.....	.....	Cloudy	
Santee, Annapolis, Md	30.24‡	768.1‡	.....	.....	35	1.7	.....	SW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	29.75‡	755.6‡	.....	.....	71	21.7	85	SE	.....	.....	7	.....	5	.....	SE	.....	.....	Long	SE	Fair	
St. Louis, League Island, Pa.	30.28‡	769.1‡	.....	.....	30	— 1.1	.....	SW	8	3.6	.....	.....	2	.....	SW	0	0	.....	.....	Clear.	
Swatara, N. 35° 40′, W. 27° 23′	29.77‡	756.1‡	.....	.....	59	15.0	82	NNW	.....	.....	3	.....	10	.....	NNW	.....	.....	Long	NNW	Cloudy	
Tennessee, Norfolk, Va.	30.42‡	772.7‡	.....	.....	37	2.8	90	SSW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Hazy	
Trenton, Toulon, France	30.06‡	763.5‡	.....	.....	58	14.4	70	Var.	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Tuscarora, La Union, San Salvador	30.00‡	762.0‡	.....	.....	78	25.6	73	SSW	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.30‡	769.6‡	.....	.....	20	— 6.7	85	W	2	0.9	.....	.....	8	.....	.....	0	0	.....	.....	Hazy	
Wachusett, Montevideo, Uruguay.†	30.34‡	770.6‡	.....	.....	71	21.7	80	S	.....	.....	5	.....	8	.....	S	.....	.....	Rough	S	Cloudy	
Wyoming, Naples, Italy	29.94‡	760.5‡	.....	.....	56	13.3	46	NNE	.....	.....	4–5	.....	5	.....	NE	.....	.....	Smooth	NE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 55° 25′, W. 8° 30′	29.42‡	747.3‡	44	6.7		WSW			6		5		WSW			Heavy	WSW	Fair	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian, N. 46° 35′, W. 52° 35′	29.86‡	758.4‡	28	— 2.2		WNW			6		7		WSW			Rough	NW		
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Off Cape Henry, Va.	30.30‡	769.6‡	43	6.1		SW			4		2		WSW			Smooth		Clear.	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent, N. 42° 33′, W. 58° 04′	30.16‡	766.1‡	43	6.1	92	NNW			7		9		NE	Mod'ate	Mod'ate	Mod'ate	NW	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 26° 12′, W. 113° 40′ †.	30.28‡	769.1‡				N			5		0					Small	NNW	Clear	

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer,																			S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 34° 03′, E. 142° 23′ †.	30.14‡	765.5‡	61	16.1	94	ENE			4		8		ENE			Mod'ate	E	Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 58′, W. 146° 33′ †.	30.61‡	777.5	46	7.8		Var.			4–5		ns		N			Mod'ate	N	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 33° 40′, W. 118° 17′ †.	30.20‡	767.1‡	52	11.1		NNW			4		0			0	0	Light	W	Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 18° 30′, W. 103° 58′....†	29.97‡	761.2‡	72	22.2	95	Calm	.....	.....	0	.....	0	.....	.....	0	0	Light	NNE	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann. ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Polemann.
S. S. City of Panama, M. Connolly, N. 29° 0′, W. 117° 00′....	30.08‡	764.0‡	58	14.4	.....	NNE	.....	.....	3	.....	0	.....	.....	0	0	Mod'ate Small	NW	Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury Hong Kong, China. ....†	29.97‡	760.0‡	66	18.9	80	E	.....	.....	3	.....	8k	.....	NE	0	0	Smooth	.....	Threatening	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths Seattle Harbor, Washington Ter	30.29‡	769.4‡	42	5.6	.....	SSE	.....	.....	1	.....	10?	.....	Calm	0	0	.....	.....	Clear?.....	D. E. Griffiths.
S. S. Granada, J. M. Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Zalandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 40° 47′, W. 65° 46′ .....†	30.19‡	766.8‡	46	7.8	.....	WNW	5	2.2	.....	.....	2	.....	WNW	Ligh	Light	Mod'ate	WNW	Fine.....	J. Farmer & W. Apetan.
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr Adele Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 2′, E. 75° 00′.....*	29.90‡	759.4‡	58	14.4	.....	NNW	.....	.....	6	.....	10	.....	NNW	.....	.....	Mod'ate	NNW	Rain & fog...	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 24° 20′ W. 68° 59′.....	30.11‡	769.9‡	78	25.6	.....	E	.....	.....	4	.....	2	.....	E	0	0	Smooth	ESE	Clear.	.....
Iron Cross, W. Randall, N. 44° 54′, W. 16°45′..	29.62‡	752.3‡	50	10.0	82	WNW	.....	.....	7	.....	5	.....	WNW	Mod'ate	Mod'ate	Heavy Cross	W;NW	Squally	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

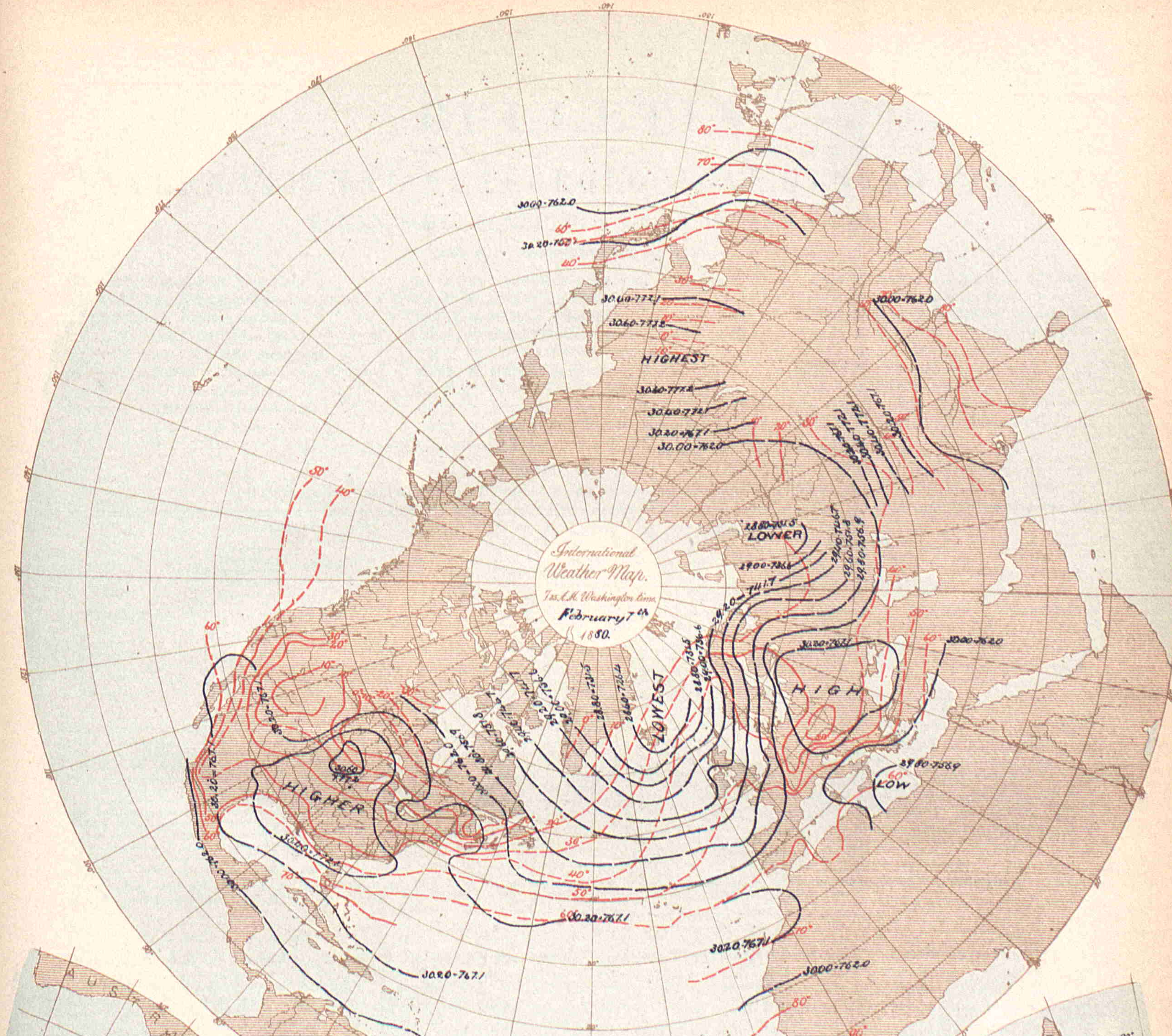
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given: D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.
Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.
Isotherms in *red* exhibit temperature of air, similarly charted.
Broken or dotted lines indicate that the lines so broken are doubtful.
Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 8, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.34	770.7	.....	.....	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	Cloudy	
Nemours	.....	.....	30.12	765.0	63.0	17.2	94	NW	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.06	763.4	57.9	14.4	80	W	.....	.....	6	.....	10	.....	.....	0.630	16.0	Covered	Tourillere.
La Calle	.....	.....	30.02	762.4	58.5	14.7	63	W	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.10	764.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.08	763.9	48.0	8.9	57	Calm	.....	.....	0	.....	8	.....	.....	Inap.	Inap.	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugnlaux.
Laghouat	.....	.....	30.16	766.1	56.8	13.8	52	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.06	763.4	61.2	16.2	75	WNW	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.69	752.7	30.24	768.0	17.4	— 8.1	89	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.6	30.13	765.3	25.2	— 3.8	78	E	0.9	0.4	.....	9	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.26	743.2	30.22	767.5	16.9	— 8.4	88	.....	.....	.....	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.85	732.8	30.22	767.5	15.1	— 9.4	68	SSW	.....	.....	2	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.70	729.0	30.21	767.2	31.8	— 0.1	67	SE	.....	.....	3	0	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.48	723.5	29.91	759 7	23.5	— 4.7	93	ENE	.....	.....	1	3	.....	.....	0	0	.....	The Staff.
Lemberg	29.11	739.4	30.16	766.1	26.0	— 3.0	76	SE	.....	.....	3	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.80	756.4	29.98	761.4	40.9	8.3	64	SW	.....	.....	1	5	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29 74	755.4	30.24	768.1	22.3	— 5.4	80	SW	.....	.....	2	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.03	760.2	30.24	768.0	16.2	— 8.8	94	Calm	.....	.....	0	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.89	759.2	29.99	761.8	49.8	9.9	24	ENE	.....	.....	1	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.36	745.8	30.09	764.3	20.5	— 6.4	95	SE	.....	.....	2	10	.....	.....	0.028	0.7	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau
Brussels	9.38	746.2	29.58	751.3	46.1	7.3	77	SSW	.....	.....	4	10	.....	SSW	0.063	1.6	.....	Royal Observatory.
Furnes	29.52	749.9	29.55	750.5	44.4	6.9	92	SSW	.....	.....	3	10	.....	.....	0.067	1.7	Light rain	M. E. de Cae.
Maeseyck	29.52	749.7	29.64	752.9	44.4	6.9	81	S	.....	.....	2	10	.....	.....	0.354	9.0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.23	742.4	29.33	745.0	42.8	6.0		W	12	5.4			2			Blank	Blank	Blue sky	W. Boswell.
Ardrossan																			G.Carrick.
Armagh, (Observatory)	29.25	742.4	29.46	748.3	42.0	5.6		WSW	10	4.5									S. Call.
Bidston (Liverpool Obs)			29.47	748.5	42.9	6.1		W	18	8.0			4					D. clouds	John Hartnup.
Bolton (Sharples)	29.93	734.8	29.44	747.8	42.1	5.6		WSW	9	4.0			5					D clouds	Thomas Mackereth.
Bradford, Yorkshire																0.33	8.4		J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.05	762.7	77	25.0		NE			2		3					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.44	747.8	29.54	750.3	45.0	7.2		SSW			1		10					Showery	H. Todd.
Cardington			29.50	749.3	46.0	7.8		W			0–1		9					Overcast	John McLaren.
Chatham (School M. E.)	29.46	748.3	29.59	751 6	43.1	6.2		Calm			0		9					Drizzling	F. Magauran, Q. M. S'gt., R. E.
Donaghadee	29.41	747.0	29.46	748.3	44	6.7		W			2		5					D. clouds	J. Mac Gowan.
Dover	29.54	750.3	29.57	751.1	45	7.2		WSW			4		10					Misty	J. Costello.
Falmouth (Observatory)	29.41	747.0	29.64	752.8	47.0	8.3		WSW			3		4					D. clouds	The Staff.
Fort Napier, Natal	27.46	695.7	29.67	753.6	100.5	38.1		NE			2		0					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.85	758.2	85	29.4		N			0		3k						
Galway (Queen's College)			29.42	747.3	44.5	6.9		Calm			0		4					Blue sky	M O'Donaghue.
Gibraltar, Mediterranean.§	30.10	764.5	30.16	766.1	55.1	12.8		E			3		10					Overcast	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.17	740 9	29.37	746.0	42.0	5.6		SW			5		3					D. clouds	D. G. Maclean.
Great Yarmouth	29.49	749.0	29.50	749.3	44	6.7		WNW			2		8					Drizzling	G. T. Watson.
Greenwich (Royal Obs'y)	29.38	746.2	29.55	750.6	44.4	6.9		WSW			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.44	747.8	29.66	753.4	48	8.9		WSW			3		3					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.80	756.9	29.92	760.0	49	9.4		WNW			4	9ck				0.30	7.6	Fine	M. P. Moyle.
Holyhead	29.43	747.5	29.49	749.0	43	6.1		W			4		1					Blue sky	John Tilston.
Jersey	29.41	747.0	29.70	754.4	46.9	8.3		W			3		2					D. clouds	J. Fisher.
Kew (Observatory)	29.53	750.0	29.57	751.1	46.0	7.8		WSW	10	4.5			8					Misty	The Met'g'l Office.
Leicester (Museum)	29.14	740.1	29.40	746.7	45.0	7.2		SW			1		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.80	756.9	29.88	758.9	56.4	13.6		NE					4k					Showery	A. King.
Nairn	29.21	741.9	29.30	744.2	40	4.4		Calm			0		0					Clear	W. D. Penny.
Nassau, Bahamas			30.23	767.8	75.0	23.9		SW					6					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.31	744.5	29.50	749.3	47.2	8.4		WNW			1		8cs;k		WNW	0.062	1.57	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.97	735.8	29.50	749.3	43.8	6.6		W			2–3		9					D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.30	744.2	29.56	750.5	45	7.2		W			2		7					D. clouds	H. E. Bellamy.
Plymouth	29.53	750.0	29.60	751.8	45.0	7.2		W			2		4					D. clouds	John Merrifield.
*Roche's Point	29.48	748.8	29.56	750.8	44	6.7		W			3		5					½ clouded	Wm. Kennedy.
St. Ann's Head	29.34	745.2	29.50	749.3	44	6.7		W			2		3					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			29.24	742.7	41	5.0		W	19	8.5			5					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.02	762.5	30.08	764.0	42.4	5.8		NE			2		10			Blank	Blank	Misty	Serg't W. H. Lyne.
Sheffield	29.21	741.9	29.48	748.8	45.8	7.7		SW			1		7			0.13	3.3	Overcast	W. F. Cooper.
Silloth Rectory	29.39	746.5	29.42	747.3	44.5	6.9	83	W			2		0			0	0	Blue sky	Rev. F. Redford, A. M
Stonyhurst (Observatory)			29.44	747.8	44.0	6.7		WSW	14	6.3			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.36	745.7	29.57	751.1	46.0	7.8		W			2–3		8					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.60	751.8	29.65	753.1	50	10.0		W			2		4					D. clouds	W. Newcombe.
Valencia Observatory)	29.49	749.0	29.51	749.5	45.7	7.6		WSW	11	4.9			6					D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.79	756.7	29.83	757.7	72.2	22.3	54	WNW	12.7	5.7		0	2k			0.13	3.3	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7			96	35.6		WNW				0	1k						Robert Burnet.
Constable, Cape Colony	26.58	675.1			84	28.9		W											Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.95	760.7	74.0	23.3	74	S			1		0			0	0	Star light	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith(RestalrigPark)Sc'tl'd			29.41	747.0	43.0	6.1		W			2		3k*			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.4	81.0	27.2	60	E	14 5	6.5		1	2		E	0.01	0.3	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758 9	77.7	25.4	56	NE	6	2.7			8			0	0		J. Youngclause.
Monach Lt-house, Hebrides			29.36	745.7	44	6.7		WSW			4	3	5	SW		0	0		
North Unst, Shetland Is			29.20	741.7				W			4	10	10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Gulway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 45° 24′, W. 35° 45′			30.07‡	763.8‡	58	14.4		NNW			5		10			Smooth		Foggy	Capt. Thos. Young.
City of Cashmere, S. 24° 08′, W. 34° 15′			30.09‡	764.3‡	79	26.1		NE			5		7cs		NW			D. clouds	Capt. W. M. Grieve.
Bute Fylde, N. 39° 55′, W. 51° 35′			30.21	767.3	61	16.1		NNW			4		7			4	Confused	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			29.57	751.1‡	72	22.2		SW			7		1					Blue sky	Capt. O. D. Coxwell
S. S. Richmond, N. 22° 32′, W. 74° 23′			30.25	768.3	75	23.9		E			6		5			2		D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 21° 32′, E. 67° 24′			30.06‡	763.5‡	79	26.1		E			4		3					D. clouds	Capt. W. P. Hughes.
S. S Strathleven																			Capt. C. W. Pearson
S. S. Sunbeam																			Capt. C M. Dobson.
S. S Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding
Barque Fedalina																			Capt. H. L. Fox.
H. M. S. Alert																			Capt. J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.25	666.7	29.97	761.2	64.8	18.2	80	NE	.....	.....	3	2ck	4d	.....	E	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.06	753.3	29.71	754.5	32.0	0.0	87	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Faröe	29.53	750.1	29.55	750.6	36.0	2.2	82	S	.....	.....	4	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.22	742.2	29.26	743.3	—18.2	—25.1	100	NNW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	28.84	732.4	28.88	733.5	24.4	— 4.2	95	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Snowing	
Thorshavn (Faröe)	29.15	740.4	29.19	741.3	36.3	2.4	87	SSW	.....	.....	2	.....	3	.....	.....	.....	.....	.....	
Vestervig	29.39	746.6	29.50	749.4	38.8	3.8	88	S	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.17	740.8	29.72	754.8	44.6	7	94	SW	.....	.....	2	.....	10	.....	SW	0.472	12.0	Raining	Collignon, Director.
Amiens, Normal School	29.49	749.0	29.60	751.9	45.3	7.4	94	SSW	.....	.....	1	.....	10	.....	Calm	0.016	0.4	Covered	Vaillant, Director.
Arras, Engin'r School	29.32	744.7	29.58	751.3	43.5	6.4	97	W	.....	.....	3	.....	10n	.....	W	0.079	2.0	Raining	Klein, Commandant.
Avignon, Normal School	29.82	757.3	29.89	759.3	50.5	10.3	56	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Rainy	Giraud, Director.
Bar-sur-Seine	29.18	741.2	29.75	755.6	41.5	5.3	84	SSE	.....	.....	1	.....	10	.....	SW	.....	.....	Raining	C. Saillard, Director.
Beauvais, Normal School	29.35	745.5	29.62	752.3	45.5	7.5	91	W	.....	.....	1	.....	10	.....	WNW	0.177	4.50	Covered	Frère Eugene Marie.
Besançon, Normal School	28.94	735.0	29.84	758.0	40.1	4.5	83	S	.....	.....	1	.....	5	.....	S	0	0	Cloudy	A. Carré, Director.
Bordeaux	29.05	753.2	29.85	758.2	55.4	13.0	49	WNW	.....	.....	2	.....	5	.....	.....	0.256	6.50	Cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.03	737.3	29.93	760.3	41.7	5.4	75	S	.....	.....	3	.....	10n	.....	S	.....	.....	Raining	Marlot, Director.
Bourges, Normal School	29.19	741.5	29.76	755.7	47.1	8.4	86	SW	.....	.....	3	.....	10sn	.....	W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.52	749.9	29.77	756.1	52.9	11.6	77	W	.....	.....	2	.....	3k	.....	W	0.787	20.00	.....	Ch. de Kermaree, Dir
Caen, Normal School	29.60	751.9	29.67	753.7	47.3	8.5	88	W	.....	.....	2	.....	5	SW	W	0.110	2.8	Cloudy	M. Biotrin, Director.
Carcassonne, N. School	29.40	748.2	29.87	758.8	50.9	10.5	54	W	.....	.....	4	.....	10	W	W	0.268	6.8	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.41	746.9	29.73	755.2	44.6	7.0	77	SW	.....	.....	1	.....	10	NE	NE	0	0	Covered	Jadot, Director
Chartres, Normal School	29.06	738.2	29.63	752.5	45.7	7.6	89	E	.....	.....	3	.....	10	NW	.....	1.18	30.	Light rain	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.43	722.1	29.79	756.7	49.3	9.6	58	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	28.87	733.3	29.74	755.3	45.1	7.3	55	SSW	.....	.....	3	.....	5cn	SSW	SSW	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.79	731.2	29.93	760.2	52.2	11.2	57	SE	.....	.....	3	.....	8	.....	SE	0	0	.....	Meyrol,for L. Kina, Dir.
Grenoble, Normal School	29.08	738.8	29.87	758 8	40.6	4.8	62	WNW	.....	.....	1	.....	cn	.....	NE	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.61	752.1	29.82	757.5	51.1	10.6	9	SW	.....	.....	1	.....	5	.....	SSW	0.307	7.8	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.40	746.7	29.71	754.6	47.1	8.4	70	NW	.....	.....	2	.....	10	.....	WSW	0.319	8.1	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.95	735.3	29.87	758.8	43.3	6.3	73	SW	.....	.....	3	.....	10n	.....	SW	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.67	753.5	29.78	756.3	49.6	9.8	81	SW	.....	.....	3	.....	0	.....	.....	0.394	10.0	Clear	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.25	743.0	29.89	759.2	43.0	6.1	84	SSW	.....	.....	4	.....	10cn	.....	SW	0.087	2.2	Raining	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.60	751.7	29.87	758.6	54.9	12.7	46	SE	.....	.....	2	.....	10	.....	SE	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	28.70	729.0	29.77	756.1	41.4	5.2	83	S	.....	.....	3	.....	2	.....	.....	0	0	Slightly cld'y	Barbier, Director.
Mont-Louis	24.62	625.3	29.93	760.3	35.6	2.0	63	WNW	.....	.....	4	.....	4	.....	E	0.1'4	2.9	.....	M. Cave, for Dr. Fines.
Nice	29.90	759.5	29.94	760.4	56.1	13.4	64	SE	.....	.....	2	.....	1	SE	SE	0	0	Clear	Capt.Boissiere, Director.
Nismes, Normal School	29.65	753.2	29.87	758.6	47.7	8.7	92	S	.....	.....	1	.....	1	.....	S	0	0	Clear	M. Boyer, Director.
Perpignan	29.75	755.7	29.86	758.4	51.8	11.0	62	N	18.6	8.3	.....	.....	10	NW	NW	0.012	0.3	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.09	676.2	.....	.....	22.3	— 5.4	.....	.....	.....	.....	.....	.....	10	.....	NW	0.492	12.5	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.84	732.5	29.92	760.0	46.8	8.2	72	S	.....	.....	3	.....	10	S	S	.....	.....	Raining	M. Tallieu
Puy de Dome (Summ') Obs	24.85	631.1	.....	.....	29.8	— 1.2	100	WSW	.....	.....	6	.....	Fog	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.84	758.0	29.87	758.8	50.5	10.3	92	SW	.....	.....	2	.....	2	SW	SW	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	29.54	750.4	29.93	752.6	45.1	7.3	95	W	.....	.....	1	.....	10	.....	SW	0.157	4.0	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.67	753.6	29.70	754.4	49.8	9.9	68	WSW	.....	.....	4	.....	1	.....	WSW	0.508	12.90	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.48	748.9	29.65	753.1	46.0	7.8	90	S	.....	.....	3	.....	10	.....	.....	0.130	3.3	Covered	E. Renou, Director.
Tarbes, Normal School	28.80	731.5	29.89	759.2	50.0	10	62	W	.....	.....	1	.....	.....	.....	.....	0.000	0.002	.....	T. Huguet, Director
Toulouse, Observatory	29.22	742.2	29.94	760.4	48.7	9.3	75	NNE	.....	.....	3	.....	10	.....	.....	0.362	9.2	Covered	B. Bailland, Dir.
Tours	29.56	750.8	29.76	755.8	46.8	8.2	78	WNW	.....	.....	3	.....	10	.....	WNW	0.173	4.4	Covered	M. de Tastes.
Versailles, Observatory	29.13	740.0	29.63	752.5	45.0	7.2	94	W	.....	.....	2	.....	10	.....	.....	0.072	1.82	Covered	Dr.A. Bertiny, Director
Villefranche-sur-Saone, N.S	29.15	740.4	29.88	759.0	42.3	5.7	89	SE	.....	.....	1	.....	10	.....	.....	0.102	2.6	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	762.0	30.03	762.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.47	12.	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.36	745.8	.....	.....	45.9	7.7	93	S	.....	.....	3	.....	10	.....	SSW	0.142	3.6	Light rain	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.32	770.2	30.35	770.8	37.4	3.0	93	NW	13.4	6.0	.....	.....	10n	.....	.....	0.020	0.5	Raining	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, bat otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.00	736.7	29.86	758.5	24.3	— 4.3	75	Calm			0		2s			0	0		Prof. Dr. Hoh.
Berlin	29.61	752.2	29.79	756.7	37.0	2.8	52	SE			2		0			0	0		Prof. Dr. Arndt.
Breslau	29.43	747.6	29.97	761.1	37.2	2.9	56	S			3		1			0	0		Royal University Obs'y
Carlsruhe	29.37	746.0	29.81	757.2	34.3	1.3	62	Calm			0		0			0.028	0.7		Albert Senz.
Cassel	29.12	739.7	29.72	755.0	39.9	4.4	51	S			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.51	749.6	29.89	759.2	34.3	1.3	47	NW			1		1			0	0		Physical Society.
Friedrichshafen	28.41	721.6	29.93	760.2	23.0	— 5.0	81	SE			3		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	29.61	752.0	29.68	753.8	39.0	3.9	62	SE			3		8			0	0		Dr. Reinhold Kleeman.
Kiel	29.62	752.4	29.64	752.8	38.1	3.4	65	SSE			2		6			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.94	760.5	30.03	762.7	34.7	1.5	70	S			5		1			0	0		Prof. E. Luther.
Köslin			29.93	760.5	33.1	0.6		S			2		0			0	0		H. Müller.
Leipsic Observatory	29.40	746.7	29.83	757.7	35.8	2.1	56	SSE			2		0			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.54	750.4	29.77	756.1	34.0	1.1	68	SE			5		0			0	0	Squally	Dr. Assmann.
Memel	29.94	760.5	29.99	761.7	33.1	0.6	83	S			3		0						Reinbrecht & Issermann
Munich (München)	27.99	711.0	29.84	758.0	25.0	— 3.9	78	N			1		2	SE		0	0		Dr. C. Lang.
Neufahrwasser	29.93	760.3	29.95	760.7	33.8	1.0	77	SSE			4		5			0	0		A. Lothes.
Neustadt (Palatinate)	29.26	743.1	29.78	756.4	36.3	2.4	74	ENE			1		1	E		0	0		Reallehrer Dicknether.
Posen	29.63	752.5	29.93	760.2	36.0	2.2	66	SE			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.27	743.4	29.84	758.0	32.0	0.0	89	Calm			0		1			0	0		Imp. University Observatory.
Stuttgart	28.85	732.9	29.82	757.5	38.3	3.5	44	N			1		0			0	0		Prof. Dr. Schoder.
Thorn	29.83	757.7	30.02	762.5	37.2	2.9	62	S			5		1			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.35	720.1	29.92	760.0	27.3	— 2.6	83		0.9	0.4						0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	29.72	754 8	29.74	755.4	25.2	— 3.8	98	SE			2		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 526.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.64	752.8	30.04	763.0	47.3	8.5		NE			4.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.5	29.96	760.8	66.6	19.2	33	NW	30	13.4			0			0.07	1.8	Blue sky	
Deesa	29.50	749.2	29.98	761.6	68.8	20.4	35	S	6.9	3.1			8	WSW		0	0	Gloomy	
Bombay	29.88	759.0	29.92	760.0	75.3	24.1	62	NNW	22	9.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.02	711.8	29.86	758.4	85.5	29.7	19	WNW	18	8.0			0			0	0	Blue sky	
Belgaum	27.36	694.6	29.88	758.8	80.4	26.9	45	WSW	7	3.1			1	SW		0	0	D. clouds	
Lahore	29.19	741.5	29.98	761.5	54.2	12.3	87	Calm	1.4	0.6			10			0	0	Overcast	
Roorkee	29.07	738.4	30.01	762.3	59.8	15.4	82	SE	2.4	1.1			10			0	0		
Agra	29.42	747.1	30.01	762.2	61.3	16.3	50	NW	2.7	1.2			10		N	0	0		
Nagpur	28.83	732.2	29.87	758.6	84.9	29.4	33	E	4.8	2.2			2	SW		0	0	D. clouds	
Jubbulpore	28.48	723.5	29.84	757.7	84.3	29.1	37	Calm	2.2	1.0			10		S	0	0	Overcast	
Lucknow	29.56	750.9	29.96	760.9	64.3	17.9	86	Calm	0 1	0.04			10			0	0	Overcast	
Allahabad	29.62	752.2	29.94	760.4	69.8	21.0	42	Calm	1.0	0.4			5			0	0	D. clouds	
Patna	29.79	756.7	29.98	761.4	71.7	22.1	31	W	0.7	0.3			0			0	0	Blue sky	
Hazaribagh	27.91	709.0	29.96	761.0	70.3	21.3	41	NE	3.7	1.6			3			0	0	D. clouds	
Cuttack	29.87	758.8	29.96	760.9	80.5	26.9	59	SSW	2.0	0.9			0			0	0	Blue sky	
Jalcutta (Alipore)	29.93	760.3	29 96	760.8	73.9	23.3	72	WSW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.59	751.6	29.99	761.7	72.2	22.3	29	Calm	2.3	1.0			0			0	0	Blue sky	
Chittagong	29.88	759.1	29.98	761.4	74.6	23.7	82	WNW	3.1	1.4			0			0	0	Misty	
Sibsagar	29.67	753.6	30.02	762.5	65.1	18.4	72	ENE	2.0	0.9			1			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,360 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.58	751.2	30.00	762.0	45.9	7.7	23	SE	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.44	747.7	29.97	761.3	41.7	5.4	81	SSE	.....	.....	1	.....	4	S	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.87	758.8	29.99	761.7	43.2	6.2	88	NE	6.9	2.8	.....	.....	10	E	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.9	30.00	761.9	41.0	5.0	57	E	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.74	755.5	29.94	760.5	54.9	12.7	21	NE	3.1	1.4	.....	.....	1	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.02	711.7	29.99	761.8	44.4	6.9	26	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.92	760.0	29.97	761 3	40.1	4.5	51	NW	10.5	4.7	.....	.....	5	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.69	754.2	29.96	761.0	53.6	12.0	41	E	.....	.....	2	.....	10	N	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	759.0	29.97	761.2	50.4	10.2	85	N	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.76	756.0	29.95	760.6	52.2	11.2	50	N	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.69	754.0	29.95	760.6	56.5	13.6	70	NW	2.5	1.1	.....	.....	4	W	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.06	738.1	29.97	761 3	52.9	11.6	74	NW	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.72	755.0	29.93	760.1	55.4	13.0	55	NW	.....	.....	2	.....	5	N	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.07	738.7	29.93	760.2	56.1	13.4	60	ENE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. G. Ciaccatore.
Syracuse	29.83	757.7	29.87	758.8	53.8	12.1	79	NE	7.4	3.3	.....	.....	9	NNE	.....	0.343	8.7	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.41	746.9	29.95	760.6	55.4	13.0	55	NE	0	0	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.02	762.5	30.04	763 0	47.3	8.5	82	NNE	7.1	3.2	.....	.....	10cs;8	.....	.....	0.235	5.85	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.02	762.5	50.5	10.3	89	NNE	3.9	1.7	.....	.....	6s	.....	.....	0	0	.....	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.03	762.7	30 10	764.5	39.1	3.9	96	NNE	12.6	5.6	.....	.....	10n	.....	.....	0.820	20.83	Raining	The Staff.
Wakayama	29.93	760.2	29.98	761.5	47.6	8.7	81	NNE	3.5	1.6	.....	.....	10s	.....	.....	0.195	4.95	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.16	638.7	30.33	770.3	44.6	7 0	54	Calm	.....	.....	0	4ck	0	.....	.....	0	0	Fair	Prof. L. Perez.
Leon	24.56	623.7	30.40	772.1	49.3	9.6	83	SW	.....	.....	1	2c	0	NW	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.83	757.7	30.10	764.5	57.7	14.3	85	NW	.....	.....	2	3cs	1s	SW	.....	0	0	Fair	F. Quijano, C. E.
Mexico, Central Observatory	23.15	587.9	30.31	769.9	46.3	7.4	82	Calm	0	0	.....	.....	10k	.....	.....	0	0	Covered	The Staff
Morelia	24.18	614.2	.....	.....	54.7	12.6	60	N	.....	.....	3	4c	3k	NE	SE	0	0	Cloudy	M. Fena, M. D.
Pabellon (Aguascalientes)	24.06	611.0	30.18	766.6	46 9	8.3	76	NW	.....	.....	1	2c	4ks	SW	SW	0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.9	30.44	773.2	41.0	5.0	52	E	0.2	0.1	.....	.....	0	.....	.....	0	0	Fair	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.41	772.3	46.6	8.1	37	SE	.....	.....	1	10	0	W	.....	0.	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.19	766.9	30.21	767.2	64.9	18.3	79	N	.....	.....	4	5	5	NE	N	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	30.20	767.1	30.23	767.8	66.2	19.0	72	N	6.7	3.0	.....	.....	8sk	.....	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.55	750.5	29.55	750.5	42.1	5.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.035	0.9	.....	
Groningen	29.53	750.1	29.59	751.5	42.3	5.7	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.52	749.8	29.52	749.8	40 3	4.6	.....	S	.....	.....	4	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	29.55	750.6	29.55	750.6	40.8	4.9	92	S	.....	.....	3	.....	.....	.....	.....	0.039	1.0	.....	
Utrecht	29.53	750.0	29.58	751.2	42.1	5.6	85	S	.....	.....	2	.....	8	.....	.....	0.088	2.1	Very cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.17	741.0	29.23	742.4	43.2	6.2	97	S	35.3	15.8	.....	.....	10	.....	.....	0.616	13.1	Raining.....	
Brönö	29.25	742.9	29.29	743.9	41.0	5.0	69	SSE	9	4	.....	.....	10	.....	.....	0.071	1.8	.....	
Christiana	29.35	745.4	29.50	749.2	34.8	1.3	96	SSE	13	6	.....	.....	10	.....	.....	0.165	4.2	Raining.....	
Tromsö	29.12	739.6	29.16	740.7	37.8	3.2	66	WSW	25	11	.....	.....	8	.....	.....	0.043	1.1	.....	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.70	754.4	29.92	759.9	52.2	11.2	93	W	.....	.....	3	.....	7	.....	.....	1.102	28.0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.7	30.10	764.6	50.4	10.3	84	WSW	5.6	2.5	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Funchal (Maderia)	30.15	765.7	30.23	767.9	65.8	18.8	70	WSW	8.7	3.9	.....	.....	8	.....	.....	0.051	1.3	.....	Dr. A. M. R. dos Santos.
Lisbon Observatory	29.78	756.3	30.14	765.5	55.4	13.0	65	SSW	11.2	5.0	.....	.....	10	WSW	.....	0.122	3.1	.....	The Staff.
Ponta Delgada (Azores)	29.90	759.5	29.97	761.3	60.1	15.6	89	WSW	4.3	1.9	.....	.....	10	.....	.....	0.150	3.8	Light rain...	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. . . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa				
Porto Praya, Cape Verd Ids.	2	NNE	D. clouds.....	A.de SouzaRoza, 2ndL't
Sà da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello.				
St. Paul de Loando	.....	.....	.....	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	2	N	.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.34	745.1	29.35	745.6	19.0	— 7.2	93	ESE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.63	777.9	30.54	775.8	17.6	— 8.0	77	WSW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.24	742.6	29.76	755.9	27.0	— 2.8	85	SW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.79	756.6	30.04	763.1	33.4	0.8	92	SSW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.68	728.4	30.16	766.0	— 8.5	—22.5	65	W	18	8	.....	c	1cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	29.59	751.5	29.88	758.9	14.2	— 9.9	76	S	13	6	.....	.....	10	.....	.....	.....	.....	.....	.....
Kertch	30.47	773.8	30.48	774.3	28.0	— 2.2	85	ENE	9	4	.....	.....	0	.....	.....	.....	.....	Snow-drift..	Physical Cabinet.
Kieff	29.78	756.4	30.47	773.8	20.5	— 6.4	95	SSW	9	4	.....	.....	3cks	.....	.....	.....	.....	.....	Lagorio.
Krotkowo*	29.61	752.1	30.12	765.1	15.1	— 9.4	55	SW	2	1	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Lugan	30.34	770.5	30.56	776.1	20.8	— 6.2	76	SSE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Moscow	29.57	751.0	30.14	765.6	31.3	— 0.4	80	E	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.98	710.7	30.57	776.4	— 4.7	—20.4	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.44	773.2	30.51	775.0	23.5	— 4.7	81	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.90	759.5	30.15	765.8	28.4	— 2.0	80	WNW	7	3	.....	.....	9kn	.....	.....	.....	.....	.....	Kurdakof.
Orenberg																			
Pekin (China)	30 18	766.6	30.32	770.2	27.5	— 2.5	89	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	.....
St. Petersburg	29.91	759.8	29.93	760.2	34.2	1.2	78	SW	9	4	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.50	724.0	30.18	766.6	27.0	— 2.8	87	N	4	2	.....	.....	3	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.87	733.4	30.33	770.4	48.6	9.2	47	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Telch, A. M.
Vladivostock																			Physical Observatory.
Warsaw	29.65	753.2	30.10	764.5	30.6	— 0.8	77	SE	11	5	.....	.....	0	.....	.....	.....	.....	.....	.....
Wilna	29.74	755.5	30.19	766.7	31.1	— 0.5	75	SSE	4	2	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	29.26	743.3	29.53	750.7	29.5	— 1.4	75	S	11	5	.....	.....	10	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.78	756.5	29.89	759.2	55.9	13.3	69	E	3.6	1.61	.....	.....	6	.....	.....	0.063	1.53	Misty.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.95	760.6	30.00	762.0	55.0	12.8	62	N	5.1	2.26	.....	2	4	NW	.....	0.201	5.1	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.1	.....	.....	43.7	6.5	61	W	13.2	5.88	.....	0	6	.....	.....	0.031	0.8	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.76	705.2	30.04	762.9	46.9	8.3	56	W	13.4	6.00	.....	2	3	W	.....	0.110	2.8	Light clouds	The Staff.
Murcia, Met. Obs'y	29.84	758.0	29.99	761.8	63.6	17.5	56	WSW	1.7	0.75	.....	2	3	ESE	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.2	29.89	759.3	47.7	8.7	83	SSE	15.0	6.7	.....	.....	10	.....	.....	0.850	21.6	Raining.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.14	765.5	30.20	767.2	66.6	19.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.92	760.0	29.98	761.4	81.0	27.2	78	E	1.8	0.8	.....	.....	7ck	.....	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.4	30.16	766.0	56.7	13.7	81	Calm	0	0	.....	0	10	.....	W	0.040	1.0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.08	763.9	30.17	766.2	73.8	23.2	77	SE	28.0	12.50	.....	2kn	6kn	SE	SE	0.020	0.50	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.6 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.46	748.8	29.50	749.3	30.6	— 0.8	.....	S	.....	.....	2	.....	10	.....	.....	0.276	7.0	.....	
Umea	29.52	749.8	29.57	751.1	33.8	1.0	92	SW	.....	.....	2	.....	10	.....	.....	0.142	3.6	.....	
Hernosand	29.50	749.3	29.55	750.6	34.9	1.6	96	S	.....	.....	4	.....	10	.....	.....	0.047	1.2	.....	
Stockholm	29.69	751.5	29.76	756.0	33.1	0.6	82	S	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.74	755.5	29.80	757.0	34.9	1.6	69	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.58	751.2	29.66	753.4	35.8	2.1	73	S	16.1	7.2	.....	.....	1	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 45', W. 79° 52'	.....	.....	29.94‡	760.4‡	78.8	26.0	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.45	722.7	29.97	761.3	25.0	— 3.9	100	NNW	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.21	716.4	29.94	760.5	26.2	— 3.2	73	W	.....	.....	1	.....	3	.....	.....	0	0	Fair	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.0 mm.; Thermometer, —6.7 Cent. Relative Humidity, +26 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.15	765.7	41.7	5.4	84	ENE	22	10.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.93	760.3	59.9	15.5	.....	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.87	758.8	68.0	17.2	63	NE	.....	.....	3	.....	9cs	.....	.....	0.01	0.3	.....	Prof. C. V. A. van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Chatham, N. B.	30.26	768.6	30.33	770.4	—20.0	—28.9	93	W	1	0.4	.....	5c	0	.....	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.26	768.6	30.30	769.6	4.2	—15.4	85	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.33	770.4	7.8	—13.4	95	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Smith, M. A.
Dalhousie, N. B.	30.09	764.3	30.27	768.8	2.8	—16.5	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	6.0	—14.4	88	NW	24	10.7	.....	2cs	5s	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B.	30.34	770.6	30.42	772.7	—18.9	—28.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	29.53	750.0	30.50	774.7	—17.4	—27.4	100	NW	10	4.5	.....	0	0	.....	.....	0.550	13.97	Clear.	James Stewart.
Granton, Ontario	29.18	741.1	30.38	771.6	15.0	— 9.4	100	S	.....	.....	2	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	30.24	768.1	30.38	771.6	10.0	—23.3	79	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	A. Allison.
Hamilton, Ontario	29.99	761.7	30.39	771.9	21.5	— 5.8	84	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.00	762.0	30.36	771.1	23.7	— 4.6	82	W	8	3.6	.....	7k	0	W	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.	.....	.....	.....	.....	.....	.....	.....	NW	6	2.7	.....	4k	0	NW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	30.14	765.5	30.36	771.1	11.0	—11.7	80	SW	14	6.3	.....	8k	7s	W	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	29.99	761.7	30.03	762.7	—11.6	—24.2	85	N	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Snowing	J. R. Nelson.
Norwood, Ontario	29.53	750.0	30.31	769.9	4.5	—15.3	100	Calm	0	0	.....	3c	0	.....	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.43	747.5	30.17	766.3	22.5	— 5.3	79	S	24	10.7	.....	2k	4ks	SW	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.66	754.4	30.40	772.1	26.0	— 3.3	88	SW	19	8.5	.....	5k	0	SW	.....	0.03	0.8	Fair	H. Morgan.
Port Stanley, Ontario	29.70	753.4	30.38	771.6	26.7	— 2.9	76	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
Quebec, Quebec	29.94	760.5	30.31	769.9	3.0	—16.1	73	NW	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.54	750.3	30.04	763.0	8.1	—13.3	69	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B.	30.25	768.3	30.43	772.9	11	—11.7	59	W	7	3.1	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.50	749.3	30.26	768.6	20.1	— 6.6	92	S	22	9.8	.....	7cs	0	SW	.....	0.03	0.8	Fair	Mrs. K. Stewart.
Stratford, Ontario	28.90	734.0	30.29	769.4	15.5	— 9.2	88	S	18	8.0	.....	0	0	.....	.....	0	0	Clear.	C. J. MacGregor, M. A.
Sydney, C. B.	30.18	766.6	30.32	767.6	8.2	—13.2	91	SW	7	3.1	.....	0	7ks	.....	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.94	760.5	30.36	771.1	17.4	— 8.1	88	SW	8	3.6	.....	2cs	2s	NW	.....	0.030	0.76	Fair	Magnetic Observatory
Windsor, N. S.	30.25	768.3	30.35	770.9	11.5	—11.4	90	NW	3	1.3	.....	7k	0	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.20	741.7	30.35	770.9	20.8	— 6.2	85	.....	.....	.....	.....	1c	0	.....	.....	0.10	2.5	Clear.	Professor Wolverton.
Yarmouth, N. S.	30.37	771.4	30.44	773.2	21.0	— 6.1	73	NW	6	2.7	.....	.....	7ks	.....	.....	0.15	3.8	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.82	757.4	30.10	764.5	3	—16.1	73	NW	.....	.....	.....	0	5s	.....	.....	Blank	Blank	Fair	John Delany.
St. Pierre, N. F., Pilopital Maritime.	.....	.....	29.96	761.0	10.3	—12.0	.....	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the SECRETARY OF WAR.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.33	770.4	30.58	776.7	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Fair	
Alpena, Michigan	29.35	745.5	30.04	763.0	20	— 6.7	70	W	12	5.4	.....	8c	0	W	.....	0	0	Clear	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	29.29	744.0	30.50	774.7	40	4.4	48	E	9	4.0	.....	5k	5s	Calm	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.64	778.2	30.65	778.5	24	— 4.4	74	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.33	770.4	30.56	776.2	46	7.8	47	NE	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Baltimore, Maryland	30.63	778.0	30.68	779.3	25	— 3.9	62	NW	1	0.4	.....	0	Fog	Calm	Calm	0	0	Clear	
Barnegat, New Jersey	30.59	777.0	30.61	777.5	22	— 5.6	72	N	8	3.6	.....	2cs	0	E	.....	0	0	Clear	
Bismarck, Dakota	28.54	724.9	30.40	772.1	— 5	—20.6	100	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.90	734.0	30.28	769.1	44	6.7	84	SE	2	0.9	.....	.....	10s	Calm	0	0	Cloudy		
Boise City, Idaho	27.50	698.5	30.46	773.7	27	— 2.8	76	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.38	771.6	30.55	776.0	16	— 8.9	66	W	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Brackettville, Texas	29.18	741.1	30.29	769.4	42	5.6	91	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Breckenridge, Minnesota	29.22	742.2	30.27	771.4	— 5	—20.6	100	S	30	13.4	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.26	768.6	30.31	769.9	46	7.8	92	N	12	5.4	.....	.....	10s	.....	N	0.19	4.8	Cloudy	
Buffalo, New York	29.64	752.8	30.40	772.1	21	— 6.1	71	S	13	5.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Burkes, Arizona																			
Burlington, Vermont	30.14	765.5	30.46	773.7	12	—11.1	89	S	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Cairo, Illinois	30.07	763.8	30.49	774.4	32	0.0	69	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.47	697.7	30.04	763.0	23	— 5.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.58	776.7	30.58	776.7	44	6.7	68	NE	12	5.4	.....	5cs	2ks	W	NE	0	0	Cloudy	
Cape Henry, Virginia	30.60	777.2	30.62	777.7	36	2.2	61	N	19	8.5	.....	0	8s	.....	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.55	776.0	30.57	776.5	43	6.1	67	NE	24	10.7	.....	2c	8s	NE	NE	.....	0	Cloudy	
Cape May, New Jersey	30.63	778.0	30.66	778.7	27	— 2.8	65	N	4	1.8	.....	2ck	0	NW	.....	.....	0	Fair	
Castroville, Texas	29.59	751.6	30.33	770.4	46	7.8	77	N	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Clearing	
Cedar Keys, Florida	30.31	769.9	30.33	770.4	52	11.1	86	NE	10	4.5	.....	.....	10s	.....	E	0.06	1.5	Cloudy	
Charleston, South Carolina	30.42	772.7	30.48	774.2	48	8.9	63	NE	15	6.7	.....	0	8s	.....	NE	0	0	Cloudy	
Charlotte, North Carolina	29.68	753.9	30.56	776.2	35	1.7	61	NE	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Chattanooga, Tennessee	29.66	753.4	30.52	775.2	34	1.1	79	SE	1	0.4	.....	2ck	Sm'e	SW	Calm	0	0	Fair	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	18	— 7.8	53	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.51	749.5	30.24	768.1	30	— 1.1	68	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.81	757.2	30.52	775.2	25	— 3.9	75	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.66	753.4	30.46	773.7	14	—10.0	82	SE	10	4.5	.....	0	0	.....	.....	Inap	Inap.	Clear	
Coleman City, Texas																			
Columbus, Ohio	29.58	751.3	30.50	774.7	20	— 6.7	70	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.42	721.9	30.18	766.6	40	4.4	82	SW	.....	.....	1	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.92	760.0	30.41	772.4	46	7.8	62	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.53	750.0	30.20	767.1	30	— 1.1	78	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y					26	— 3.3	94	E			1	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.52	648.2	.....	.....	16	— 8.9	66	S	4	1.8	.....	.....	10n	.....	Calm	0.91	0.3	Light snow	
Decatur, Texas	29.16	740.7	30.37	771.4	48	8.9	70	SW	12	5.4	.....	5ck	0	SW	.....	0	0	Cloudy	
Denison, Texas	29.56	750.8	30.39	771.9	44	6.7	52	S	7	3.1	.....	0	8ks	.....	S	0	0	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	20	— 6.7	47	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.18	741.1	30.09	764.3	36	2.2	61	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.63	752.6	30.35	770.9	23	— 5.0	73	SW	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Dodge City, Kansas	27.41	696.2	29.95	760.7	22	— 5.6	72	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.36	745.7	30.09	764.3	28	— 2.2	66	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.17	740.9	29.88	758.9	25	— 3.9	75	NW	16	7.2	.....	.....	10n	.....	NW	0.01	0.3	Light snow	
Eagle Pass, Texas	29.68	753.9	30.44	773.2	47	8.3	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.38	771.6	30.45	773.4	12	—11.1	61	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.68	753.9	30.46	773.7	20	— 6.7	70	S	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Escanaba, Michigan	29.22	742.2	29.91	759.7	20	— 6.7	56	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.60	726.4	30.20	767.1	44	6.7	92	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Apache, New Mexico					42	5.6	58	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	28.33	719.6	30.41	773.2	— 5	—20.6	82	N	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
Fort Custer, Montana	27.10	688.3	.....	.....	11	—11.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.37	644.4	30.33	770 4	31	— 0.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.78	756.4	30.35	770.9	38	3.3	45	SE	4	1.8	.....	0	2s	.....	S	0	0	Fair	
Fort Grant, Arizona	25.34	643.6	30.14	765.5	30	— 1.1	36	E	2	0.9	.....	2k	0	Calm	.....	0	0	Fair	
Fort Griffin, Texas	29.06	738.1	30.40	772.1	38	3.3	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.61	701.3	.....	.....	11	—11.7	100	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort McKavett, Texas	28.02	711.7	30.03	762.7	36	2.2	80	W	5	2.2	.....	1c	1s	N	W	0.01	0.3	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.09	738.9	30.26	768.6	36	2.2	71	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.53	724.6	.....	.....	— 9	—22.8	78	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Verde, Arizona					24	— 4.4	87	W			1	.....	10s	.....	W	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.52	724.4	30.17	766.3	37	2.8	63	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.32	770.1	30.37	771.4	49	9.4	71	NE	6	2.7	.....	0	8s	.....	E	0.10	2.5	Cloudy	
Graham, Texas	29.27	743.4	30.38	771.6	40	4.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.51	749.5	30.19	766.8	33	0.6	79	S	22	9.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.40	746.7	30.40	772.1	37	2.8	81	SW	6	2.7	.....	0	8s	.....	SW	0	0	Cloudy	
Indianapolis, Indiana	29.60	751.8	30.44	773.2	27	— 2.8	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.35	770 9	30.38	771.6	48	8.9	70	NE	17	7.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Jacksboro, Texas	29.12	739.6	30.27	768.8	55	12.8	62	SW	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Jacksonville, Florida	30.37	771.4	30.39	771.9	55	12.8	87	N	6	2.7	.....	.....	10n	.....	Calm	0.19	4.8	Light rain	
Keokuk, Iowa	29.55	750 6	30.20	767.1	34	1.1	70		5	2.2	.....	0	1s	.....	Calm	0	0	Clear	
Key West, Florida	30.17	766.3	30.21	767.3	71	21.7	90	NE	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear	
Kittyhawk, North Carolina	30.59	777.0	30.61	777.5	41	5.0	65	NE	16	7.2	.....	8c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.46	748.3	30.55	776.0	28	— 2.2	78	Calm	0	0	.....	2k	1s	SW	Calm	0	0	Fair	
La Crosse, Wisconsin	29.21	741.9	29.97	761.2	34	1.1	61	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	22	— 5.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.03	762.7	30.39	771.9	45	7.2	92	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Leavenworth, Kansas	29.31	744.5	30 19	766.8	34	1.1	61	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Lewiston, Idaho					25	— 3.9	88	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Little Rock, Arkansas	30.11	764.8	30.49	774 4	36	2.2	80	Calm	0	0	.....	2ck	8s	W	W	0	0	Cloudy	
Los Angeles, California	29.77	756.1	30.12	765.0	42.5	5.8	70	NE	7	3.1	.....	0	4s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.86	758.4	30.40	772.1	30	— 1.1	68	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.93	760.2	30.68	779.3	25	— 3.9	93	W	1	0.4	.....	8cs	0	SW	.....	0	0	Fair	
Madison, Wisconsin	29.02	737.1	30.04	763.0	29	— 1.7	78	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.07	738.4	29.80	756.9	24	— 4.4	87	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Mason, Texas	28.70	729.0	30.54	775.7	43	6.1	75	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	30.11	764.8	30.47	773.9	32	0.0	69	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.36	745.7	30.13	765.3	26	— 3.3	88	SW	17	7.6	.....	0	1s	.....	Calm	0	0	Clear.	
Mobile, Alabama	30.37	771.4	30.41	772.4	49	9.4	61	N	7	3.1	.....	5c	5s	W	W	0	0	Cloudy	
Montgomery, Alabama	30.22	767.6	30.47	773.9	46	7.8	61	E	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Morgantown, West Virginia	29.49	749.0	30.59	777.0	15	— 9.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H	28.60	599.4	29.96	761.0	— 8	—22.2	56	NW	54	24.1	.....	0	2ks	.....	NW	0.28	7.1	Clear	
Nashville, Tennessee	29.88	758.9	30.47	773.9	24	— 4.4	61	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.46	773.7	30.50	777.0	20	— 6.7	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.51	774.9	30.56	776.2	20	— 6.7	70	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.34	770.6	30.40	772.1	51	10.6	52	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.50	774 7	30.55	776.0	20	— 6.7	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	36	3.3	80	NE	.....	.....	1	.....	8s	.....	SW	.....	.....	Cloudy	
New York, New York	30.40	772.1	30.59	777.0	20	— 6.7	70	W	1	0.4	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Norfolk, Virginia	30.57	776.5	30.63	778.0	31	— 0.6	70	NE	4	1.8	.....	5c	1s	Calm	Calm	0	0	Fair	
North Platte, Nebraska	27.23	691.6	29.99	761.7	20	— 6.7	70	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	30.22	767.6	30.26	768.6	35.0	1.7	90	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.92	734.6	30.05	763.3	34	1.1	61	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	30.12	765.0	30.47	773.9	20	— 6.7	85	S	8	3.6	.....	Haze	0	.....	.....	0.29	7.4	Clear	
Pembina, Dakota	29.45	748.0	30.42	772.7	—15	—26.1	100	NW	16	7.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Pensacola, Florida	30.40	772.1	30.43	772.9	51	10.6	46	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	30.58	776.7	30.63	778.0	27	— 2.8	64	E	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.97	735.8	30.87	784.1	37	2.8	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.09	449.3	29.90	759.4	1	—17.2	42	NW	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.96	761 0	49	9.4	71	S	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.05	610.9	29.82	757.4	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.48	748.9	30.59	777.0	12	—11.1	80	N	2	0.9	.....	0	Fog	.....	Calm	Inap.	Inap.	Foggy	
Port Huron, Michigan	29.59	751.6	30.31	769.9	20	— 6.7	75	S	20	8.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Portland, Maine	30.40	772.1	30.46	773.7	16	— 8.9	66	W	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
Portland, Oregon	30.18	766.6	30.26	768.6	34	1.1	90	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	44	6.7	68	NE	28	12.5	.....	8cs	0	Calm	.....	0	0	Cloudy	
Prescott, Arizona	24.86	631.4	30.22	767.6	10	—12.2	79	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.22	767.6	30.24	768.1	64	17.8	94	W	2	0.9	.....	8cs	0	E	.....	0	0	Fair	
Red Bluff, California	29.78	756.4	30.16	766.3	38	3.3	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.30	769.6	30.53	775.4	46	7.8	92	N	6	2.7	.....	.....	10n	.....	N	0.24	6.1	Misting	
Rochester, New York	29.73	755.1	30.40	772.1	10	—18.9	66	SW	9	4.0	.....	0	1s	.....	Calm	0.07	1.8	Clear	
Roseburg, Oregon	29.66	753.4	30.25	768.3	35	1.7	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.02	762.5	30.10	764.5	39	3.9	91	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.76	755.9	30.38	771.6	28	— 2.2	77	S	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.06	738.1	29.92	760.0	30	— 1.1	78	W	9	4.0	.....	8cs	0	W	.....	0	0	Fair	
Salt Lake City, Utah	25.84	656.3	30.17	766.3	16	— 8.9	49	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.70	754.4	30.31	769.9	47	8.3	77	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
San Diego, California	30.07	763.8	30.15	765.8	42	5.6	91	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.71	754.6	30.45	773.4	20	— 6.7	85	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.58	776.7	30.61	777.5	25	— 3.9	62	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.03	762.7	30.09	764.3	46	7.8	84	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.35	593.1	29.89	759.2	8	—13.3	55	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.40	772.1	30.50	774.7	50	10.0	65	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Shreveport, Louisiana	30.18	766.6	30.43	772.9	43	6.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.30	774.7	30.54	775.7	49	9.4	78	N	9	4.0	.....	8k	2s	SW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.64	651.2	29.71	754.6	13	—10.6	44	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.63	752.6	30.35	770.9	29	— 1.7	67	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.48	772.9	30.58	776.7	19	— 7.2	54	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Stockton, Texas	27.27	692.6	30.27	768.8	31	— 0.6	38	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.47	773.9	30.53	775.4	18	— 7.8	70	W	13	5.8	.....	Haze	Haze	.....	.....	0.04	1.0	Hazy	
Toledo, Ohio	29.68	753.4	30.40	772.1	22	— 5.6	72	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.71	703.8	30.26	768.6	40	4.4	47	S	5	2.2	.....	5k	0	SW	.....	0	0	Fair	
Umatilla, Oregon	29.08	761.5	30.52	775.2	20	— 6.7	100	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.44	747.8	30 28	769.1	44	6.7	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.18	766.6	30.45	773.4	45	7.2	53	E	3	1.3	.....	0	5s	.....	SW	0	0	Fair	
Virginia City, Montana	24.35	618.5	29 83	757.7	13	—10.6	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.08	738.9	30.06	763.5	39	3.9	82	N	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Washington, D. C	30.54	775.7	30.67	779.0	21	— 6.1	71	Calm	0	0	.....	0	1s;fg	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	NW	.....	.....	1	5c	0	W	.....	0	0	Fair	
Wilmington, North Carolina	30.48	774.2	30.57	776 5	39	3.9	64	NE	8	3.6	.....	10c	0	Calm	.....	0	0	Cloudy	
Winnemucca, Nevada	25.76	654.0	30.11	764.8	22	— 5.6	72	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	30.46	774.4	30.54	775.7	22	— 5.6	44	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.87	733.3	30.27	768.8	17	— 8.3	51	N	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.08	761.5	30.14	765.5	46	7.8	33	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.11	764.8	30.16	766.1	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	73	22.8	74	Calm	0	0	.....	8c	2cs	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I	30.01	762.2	30.09	764.3	76.5	24.7	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	80	26.7	70	NE	.....	.....	2	3c	5k	NE	.....	0	0	Fair	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.46	748.0	30.00	762.0	81	27.2	72	N	.....	.....	3	.....	2ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.02	762.5	30.08	764.0	—40.0	—40.0	.....	SW	16	7.2	.....	2c	0	S	.....	0	0	Fair	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are as: Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,833 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653 4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,523 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,060 (?) ft., or 628 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1 670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4 15 in., or 105.1 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.39‡	771.9‡			51	10.6	86	NE	7	3.1			10		SE	0	0			Threatening	
Navy Yard, Portsmouth, N.H.	30.33‡	770.4‡			32	0.0	79	NW	2	0.9			0							Clear	
Naval Hospital, Yokohama, Japan	30.04‡	763.0‡			41.5	5.3	92	NE			3		10n		NE	0.45	11.4			Raining	
Adams, N. 26° 10′, W. 114° 13′	30.21‡	767.3‡			58	14.4	76	NNW			2		10		NNW			Smooth.	NE	Cloudy	
Colorado, New York, N. Y.	30.54‡	775.7‡			21	— 6.1		WNW	1	0.4			1		WNW	0	0			Clear	
Constitution, N. 9° 57′, W. 80° 03′	29.95‡	760.7‡			78	25.6	86	NNE			5		2		NNE			Mod'ate	NNE	Pleasant	
Enterprise, Villafranca, France	29.98‡	761.5‡			56	13.3	81	SSW			2		1		SSW			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.65‡	778.5‡			35	1.7	61	NE	2.4	1.1			5		W	0	0			Fair	
Independence, Mare I'd, Navy Yard, Cal.	30.10‡	764.5‡			44	6.7	84	ENE	1.2	0.5			10			0	0			Overcast	
Kearsarge, N. 16° 00′, W. 81° 00′	30.06‡	763.5‡			79	26.1	74	ENE			5		5		ENE			Long	ENE	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.12‡	765.0‡			48	8.9	85	Calm			0		5							Foggy	
Marion, S. 29° 15′, W. 44° 31′	29.78‡	756.4‡			79	26.1	91	N			5		10		N	Mod'ate	Mod'at	Rough	N;E	Raining	
Michigan, Erie, Pa.	30.42‡	772.7‡			18	— 7.8	68	S			2		0							Clear	
Monocacy, Shanghai, China	30.31‡	769.9‡			38	3.3	91	NW			1		10		Calm					Rainy	
New Hampshire, Port Royal, S. C.	30.46‡	773.7‡			50	10.0	72	NE	16	7.2			2?		NE	0	0			Cloudy?	
Nipsic, Port of Spain, Trinidad, W.I.	30.02‡	762.5‡			78	25.6	78	Calm			0		2					Smooth		D. clouds	
Onward, Callao, Peru †	29.91‡	759.7‡			74	23 3	81	Calm			0		5					Long	W	Fair	
Palos, Tientsin, China	30.37‡	771.4‡			28	— 2.2	?	SSW			1		10							Overcast	
Passaic, Washington, D. C.	30.66‡	778.7‡			21	— 6.1	86	NE			1		2							Clear	
Pensacola, Callao, Peru	29.99‡	760.0‡			71	21.7	95	Calm			0		2					Smooth		Hazy	
Powhatan, Off Norfolk, Va.	30.64‡	778.2‡			34	1.1	70	NNE			1		5			0	0			Fair	
Quinnebaug, Leghorn, Italy	29.95‡	760.7‡			57	13.9	58	NE			1		10		SE					Cloudy	
Ranger. Mare I'd, Navy Yard, Cal.	30.19‡	765.0‡			47	8.3	85	ENE			2		5		Calm			Smooth		Fair	
Richmond, Hong-Kong, China	30.16‡	764.5‡			61	16.1	94	NW			4–5		5		SE	0	0	Mod'ate		Threatening	
Rio Bravo, Brownsville, Texas †	30.53‡	775.4‡			46	7.8	100	NNW	5	2.2			10		NW	0.28	7.1			Cloudy	
Santee. Annapolis, Md	30.68‡	779.3‡			25	— 3.9		W			1		2			0	0			Clear	
Shenandoah, Montevideo, Uruguay	29.83‡	757.7‡			72	22.2	85	SSE			5		2		SSE			Mod'ate	SSE	Fair	
St. Louis, League Island, Pa.	30.55‡	776.0‡			21	— 6.1		Calm	0	0			0			0	0			Clear	
Swatara, N. 35° 40′, W. 24° 25′	30.08‡	764.0‡			65	18.3	84	SW			4–5		10		WSW			Mod'ate	W	Cloudy	
Tennessee, Norfolk, Va.	30.66‡	778.7‡			35	1.7	80	NNE	2	0.9			4		W	0	0			D. clouds	
Trenton. Toulon, France	29.90‡	759.4‡			58	14.4	64	SE			3		2			0	0			Clear	
Tuscarora, Chicarene, San Salvador	30.01‡	762.2‡			81	27.2	59	NNE			2–3		0			0	0	Smooth		Clear	
Wabash, Boston, Mass.	30.52‡	775.2‡			15	— 9.4	65	WNW	6	2.7						0	0			Cloudy	
Wachusett, Montevideo, Uruguay †	30.39‡	771.9‡			72	22.2	80	S			3		2		S			Mod'ate	S	Fair	
Wyoming, Naples, Italy	29.93‡	760.2‡			55	12 8	62	SE			1		5		SE			Smooth	SE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 55° 17′, W. 14° 45′	29.42‡	747.3‡	42	5.6		SSW			4		5		SSW			Mod'ate	WNW	Fair	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian, N. 48° 29′, W. 58° 30′ *	30.27‡	768.8‡	17	— 8.3		W			4		5		WSW			Smooth			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Off Bodkin Point, Chesapeake Bay	30.57‡	776.5‡	27	— 2.8		WNW			1		0					Smooth		Clear	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent, N. 44° 50′, W. 57° 47′	30.02‡	762.5‡	29	— 1.7	89	NW			6		8		NNW	Blank	Blank	Mod'ate	NW	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 23° 25′, W. 110° 41′ †	30.24‡	768.1‡				N			4		8		SSW			Smooth	WNW	Cloudy	

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Rislus.
S. S. Ohio, G. Meyer																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Yokohama, Japan	30.02‡	762.5‡	45	7.2	100	NNE			5		10		NNE			Light	NNE	Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 42° 22′, W. 139° 48′ †	30.48‡	774.2	45	7.2		N			4		ns		N			Mod'ate	N	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, Santa Barbara, Cal. †	30.14‡	765.5‡	52	11.1		SW			8		5		W	0	0			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		

PACIFIC MAIL S. S. CO., MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.

S. S. Alaska, D. S. Austin, N. 17° 22', W. 101° 16'....†	29.97‡	761.2‡	76	24.4	100	ENE			2		2		E	0	0	Light	NNE	Fair.....	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann....																			E. Polemann.
S. S. City of Panama, M. Connolly, N. 26° 08', W. 113° 58'...†.	29.97‡	761.2‡	62	16.7	.....	ENE			3		8		ENE	0	0	Mod'ate	NE	Cloudy.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury N. 22° 42', E. 116° 32'....†.	29.95‡	760.7‡	65	18.3	84	E			4		8k		NE	0	0	Smooth	.....	Misty.....	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths Seattle Harbor, Washington Ter †	30.27‡	768.8‡	38	3.3	.....	Var.			1		8		Calm	0	0	.....	.....	Cloudy.....	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest.																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 40° 25', W. 70° 40' .....†	30.51‡	774.9‡	32	0.0	.....	W	2	0.9	.....	.....	5	.....	WSW	Ligh	Light	Mod'ate	NW	Fine.....	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,...																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr Addie Fuller, J. Jorgensen.....																			J. Jorgensen.
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 43° 1', E. 79° 30'.....*	29.90‡	759.4‡	57	13.9	.....	S			6		10		S	.....	.....	Short	W	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, N 26° 15 W 69° 50'.....	30.18‡	771.5‡	74	23.3	.....	NNE			4		5		NE	0	0	Smooth	NNW	Clearing.....	
Iron Cross, W. Randall, N. 42° 28', W. 16° 04'..	29.60‡	751.8‡	56.5	13.6	67	W			9		4		WNW	Mod'ate	Mod'ate	Heavy Cross	w;waw	Misty.....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

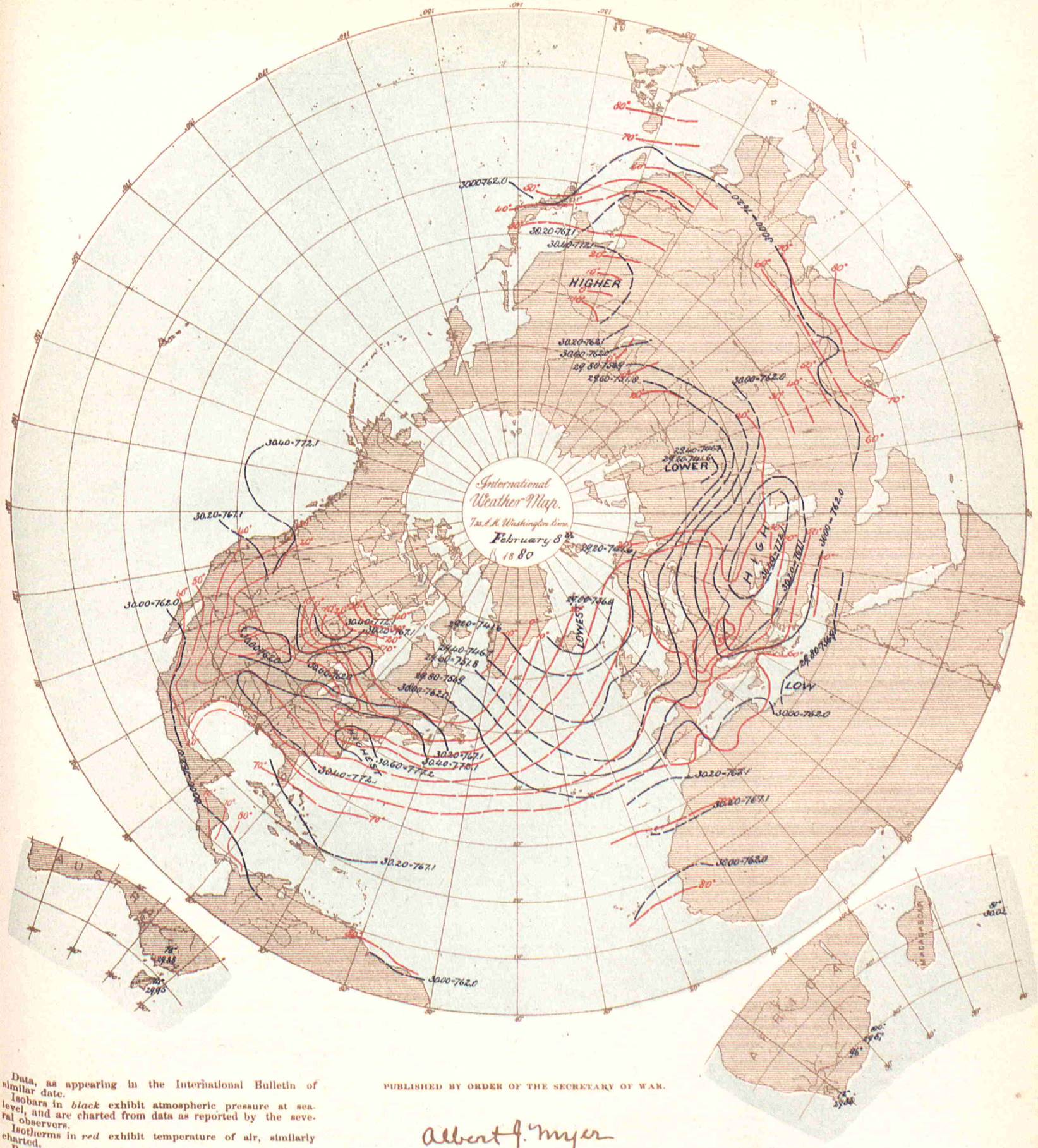
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 9, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.21	767.3				NE			2		4			0	0	Cloudy	
Nemours			30.15	765 8	62.6	17.0	81	NW			1		8			0	0	Very cloudy	Kesxuche.
Algiers			29.98	761.6	59.0	15.0	76	W			2		8			0	0	Very cloudy	Tourillere.
La Calle			30.00	762.0	57.7	14.3	57	WNW			4		8			Inap.	Inap.	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.10	764 6															Gau.
Saida			30.04	763.1															Herbin.
Tebessa			30.12	765.1	46.9	8.3	64	NNW			2		10			Inap.	Inap.	Covered	Watrin.
Geriville																			Brugniaux.
Laghouat			30.16	766.0	60.6	15.9	29	W			2		0			0	0	Clear	Bertrand.
Biskra			30.08	764.1	65.1	18.4	43	WNW			4		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.9	30.13	765.2	15.3	— 9.3	94					10				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.24	742.8	30.06	763.4	28.2	— 2.1	75	SSW	1.3	0.6		4				0	0		Dr. Wierzbicki.
Eperies	29.12	739.7	30.06	763.5	24.4	— 4.2	86					10s				0	0		Julius Mikolik.
Gratz	28.75	730.3	30.10	764.6	17.6	— 8.0	65	S			3	0				0	0		Andreas Rospini.
Hermannstadt	28.55	725.1	30.05	763.2	30.9	— 0.6	62	SSE			1	3				0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.56	725.4	30.01	762.2	17.6	— 8.0	100	ENE			1	0				0	0		The Staff.
Lemberg	28.98	736.2	30.04	762.9	24.8	— 4.0	95	SE			1	6				0	0		Dr. T. Stanecki.
Pola	29.85	758.2	29.97	761.2	39.9	4.4	92	NW			1	Fog				0	0	Foggy	I.R.Hydrographic Office.
Szathmar	29.02	752.4	30.12	765.1	21.9	— 5.6	68	S			2	0				0	0		Pet. Pancsics, S. J.
Szegedin	29.78	756.4	30.08	763.9	29.8	— 1.2	69	E			3	0				0	0		Karl Stancel.
Trieste	29.87	758.7	29.97	761.3	44.2	6.8	68	Calm			0	0				0	0	Foggy	P. Busin.
Vienna	29.33	745.0	30.08	764.1	19.4	— 7 0	89	SSE			1	10				0.020	0.5		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.41	746.9	29.61	752.0	46.9	8.3	67	SSE			4	5		SW		0.004	0.1		Royal Observatory.
Furnes	29.49	749.0	29.61	749.6	41.0	5.0	88	SW			4		8			0.031	0.8		M. E. de Cae.
Maeseyck	29.60	751.9	29.73	755.1	45.5	7.5	73	S			2		10			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.36	745.7	29.46	748.3	39.7	4.3	.....	SE	14	6.3	.....	.....	5	.....	.....	0.240	6.10	Blue sky	W. Boswell.
Ardrossan	29.25	742.9	29.26	743.2	47	8.3	.....	ENE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	G.Carrick.
Armagh, (Observatory)	28.92	734.6	29.16	740.7	39.0	3.9	.....	ENE	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.07	738.4	42.5	5.8	.....	E	38	17.0	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	28.61	726.7	29.13	740.1	40.3	4.6	.....	ESE	36	16.1	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	28.80	731.5	29.20	741.7	39.7	4.3	94	NE	.....	.....	3	.....	10	.....	.....	0.06	1.5	Overcast	J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.04	763.0	78.5	25.8	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.21	741.9	29.31	744.5	45.0	7.2	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.25	742.9	45.4	7.4	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.26	743.2	29.39	746.5	45.1	7.3	.....	S	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	F. Maguaran, Q. M. S'gt., R. E
Donaghadee	29.14	740.1	29.18	741.1	40	4.4	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.39	746.5	29.42	747.3	42	5.6	.....	S	.....	.....	6	.....	1	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	28.84	732.5	29.06	738.1	45.5	7.5	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, Natal	27.36	694.9	29.56	750.8	102.6	39.2	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs,A.H.C
Free Town, Sierra Leone	29.62	752.3	29.85	758.2	87	30.6	.....	E	.....	.....	1	.....	8k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.10	739.1	40	4.4	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	29.98	761.5	30.03	762.7	64.2	17.9	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	Corp'l S. Cordue,A.H.C.
Glasgow, (Observatory)	29.09	738.9	29.30	744.2	37.8	3.2	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.42	747.3	29.43	747.5	38	3.3	.....	SSE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.15	740.4	29.32	744.7	47.1	8.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.05	737.9	29.28	743.7	46	7.8	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Rain & hail	Dr.S.E Hoskins, F.R.S.
Helston	29.26	743.2	29.38	746.2	48	8.9	.....	SW	.....	.....	8	.....	8	.....	.....	0.30	7.6	Showery	M. P. Moyle.
Holyhead	28.92	734.6	28.99	736.3	43	6.1	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.06	738.1	29.35	745.5	45.6	7.6	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew (Observatory)	29.28	743.7	29.32	744.7	46.5	8.1	.....	S	33	14.8	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.06	738.1	29.32	744.7	41.6	5.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	58	14.4	.....	N	.....	.....	.....	.....	2k	.....	.....	.....	.....	Blue sky	A. Klug.
Nairn	29.21	741.9	29.30	744.2	37	2.8	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	W.D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	73.0	22.8	.....	SE	.....	.....	.....	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.02	737.1	29.21	741.9	44.1	6.7	.....	SSE	.....	.....	5	.....	10d	.....	S	0.080	2.03	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.62	726.9	29.14	740.1	42.0	5.6	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	28.97	735.8	29.22	742.2	44	6.7	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	28.99	736.3	29.06	738.1	47.2	8.4	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Squally	John Merrifield.
*Roche's Point	28.99	736.3	29.06	738.1	44	6.7	.....	N	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	28.51	724.1	28.67	728.2	45	7.2	.....	SSE	.....	.....	8	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.46	748.3	38.9	3.8	.....	SE	20	8.9	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.02	760.0	29.09	761.7	44.8	7.1	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	Serg't W. H. Lyne.
Sheffield	28.99	736.3	29.27	743.4	40.0	4.4	.....	ESE	.....	.....	4	.....	10	.....	.....	0.20	5.1	Overcast	W. F. Cooper.
Silloth Rectory	29.19	741.4	29.22	742.2	39.8	4.3	71	E	.....	.....	5	.....	8	.....	.....	0.304	7.72	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.17	740.9	39.1	3.9	.....	E	20	8.9	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.06	738.1	29.27	743.4	45.4	7.4	.....	SE	.....	.....	4–5	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.09	738.9	29.15	740.4	50	10.0	.....	E	.....	.....	8	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	29.20	741.7	29.22	742.2	43.1	6.2	.....	NW	13	5.8	.....	.....	10	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.94	760.5	29.98	761.5	73	22.8	62	W	10.3	4.6	.....	5	5k;ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.66	677.2	.....	.....	67	19.4	.....	W	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.96	761.0	68.0	20.0	73	SE	.....	.....	2	.....	10kn	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.36	745.7	39.0	3.9	.....	SE	.....	.....	2	.....	10ks	.....	.....	0.23	5.8	Overcast	C. Meldrum.
Mauritius (Observatory)	29.83	757.7	30.02	762.4	80.6	27.0	68	ESE	17 0	7.6	.....	1	3	.....	E	0.02	0.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.82	757.4	29.91	759.7	71.2	21.8	86	SSW	7	3.1	.....	.....	0	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.35	745.5	44	6.7	.....	SE	.....	.....	4	5	5	SE	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	29.48	748.8	.....	.....	.....	S	.....	.....	2	1	2	.....	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer.
City of Agra, S. 44° 12′, W. 32° 48′	.....	.....	Foggy	Capt. Thos. Young.
City of Cashmere, S. 23° 57′, W. 35° 10′	.....	.....	Showery	Capt. W. M. Grieve.
Bate Fylde, N. 33° 25′, W. 53° 50′	7	Confused	Overcast	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	Squally	Capt. O. D. Coxwell
S. S. Richmond, N. 22° 32′, W. 74° 23′	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra,	.....	.....	.....	Capt. W. P. Hughes.
S. S. Strathleven,	.....	.....	.....	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra,	.....	.....	.....	Capt. N. Spalding
Barque Fedalma,	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert,	.....	.....	.....	Capt. J.P. Maclear, R.N.
Barque Commewyne,	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	61.2	16.2	89	NE	.....	.....	2	3d	0	NE	.....	0	0	.....	Federico Maison.
.....																			
.....																			

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.75	755.6	29.80	756.8	34.2	1.2	98	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Fanöe	29.71	754.7	29.73	755.2	34.2	1.2	100	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Godthaab (Greenland)	29.19	741.5	29.24	742.6	— 6.0	—21.6	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	.....
Stykkisholm (Iceland)	28.84	732.4	28.88	733.5	28.4	— 2.0	96	N	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.33	745.0	29.37	745.9	39.6	4.2	84	S	.....	.....	4	.....	4	.....	.....	.....	.....	.....	.....
Vestervig	29.58	751.3	29.69	754.1	36.3	2.4	98	S	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
.....																			
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.03	737.3	29.08	751.3	45.5	7.5	94	S	.....	.....	4	.....	10	W	SW	0.059	1.5	Rain & hail.	Collignon, Director.
Amiens, Normal School	29.45	748.1	29.56	750.9	46.0	7.8	89	SE	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.30	744.3	29.56	750.9	44.6	7.0	84	S	.....	.....	4	.....	n	.....	SW	0.043	1.1	.....	Klein, Commandant.
Avignon, Normal School	29.83	757.7	29.92	759.9	53.2	11.8	54	SE	.....	.....	2	.....	8	.....	S	0.059	1.5	Very cloudy	Giraud, Director.
Bar-sur-Seine	29.18	741.1	29.74	755.4	46.6	8.1	72	SW	.....	.....	1	.....	8kn	.....	SW	0.154	3.9	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.32	744.6	29.68	751.4	45.3	7.4	76	S	.....	.....	2	.....	8	.....	WSW	0.059	1.50	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	28.98	734.8	29.80	757.0	45.0	7.2	63	S	.....	.....	1	.....	2	.....	S	0.539	13.7	Slightly cld'y	A. Carré, Director.
Bordeaux	29.53	750.1	29.73	755.1	53.2	11.8	66	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	28.99	736.4	29.89	759.2	46.4	8	57	S	.....	.....	1	.....	10n	.....	S	0.24	6.	Raining	Marlot, Director.
Bourges, Normal School	29.17	740.8	29.72	755.0	46.4	8	61	S	.....	.....	1	.....	10sn	.....	SE	0.16	4.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.18	741.1	29.42	747.2	48.9	9.4	86	WSW	.....	.....	4	.....	10	.....	SW	0.108	2.75	Raining	Ch. de Rermaree, Dir
Caen, Normal School	29.34	745.2	29.41	747.1	50.0	10.0	72	WSW	.....	.....	2	.....	5	.....	SSW	0.071	1.8	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.40	746.8	29.82	757.4	50.4	10.2	76	SSE	.....	.....	2	.....	10	SSE	SSE	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.41	747.0	29.74	755.3	49.1	9.5	61	SSW	.....	.....	1	.....	10	NNE	NNE	0	0	Covered	Jadot, Director
Chartres, Normal School	28.90	736.4	29.56	750.8	47.3	8.5	86	SE	.....	.....	4	.....	6	NW	.....	0	0	.....	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.41	721.6	29.77	756.2	46.8	8.2	59	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	28.91	734.2	29.78	756.5	43.2	6.2	79	SE	.....	.....	1	5ck	.....	SE	SE	0.24	6.	Cloudy	Dr. Coullet, Director
Commune de Gréasque*	28.83	732.2	29.97	761.2	49.3	9.6	50	S	.....	.....	3	.....	10	.....	SE	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.07	738.4	29.85	758.1	44.6	7	71	WNW	.....	.....	1	.....	cn	.....	N	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.45	748.1	29.67	753.5	50.7	10.4	90	SW	.....	.....	4	.....	5	.....	SSW	0.150	3.8	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.28	743.7	29.59	751.5	48.7	9.3	66	SSW	.....	.....	4	.....	10	WSW	SSW	0.161	4.1	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.7	29.88	759.0	46.4	8	51	SSW	.....	.....	3	.....	5cn	W	SW	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.41	746.9	29.52	749.7	45.0	7.2	84	SW	.....	.....	7	.....	8	.....	SW	0.118	3.0	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.20	741.6	29.82	757.5	48.9	9.4	66	SW	.....	.....	2	.....	10sn	.....	WSW	0.024	0.6	Covered	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.03	752.5	29.90	759.4	53.4	11.9	63	ESE	.....	.....	2-3	.....	10	.....	SE	0.028	0.7	Covered	E. Stephan, Director.
Mirecourt, Normal School	28.70	728.9	29.76	755.9	42.4	5.8	72	SSW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cld'y	Barbier, Director.
Mont-Louis	24 80	624.8	29.91	759.8	39.2	4.0	65	WSW	.....	.....	3	.....	8	.....	W	0	0	.....	M. Cave, for Dr. Fines.
Nice	29.92	759.9	29.95	760.8	54.9	12.7	51	SW	.....	.....	3	.....	5	W	SW	0	0	Cloudy	Capt. Boissière, Director.
Nismes, Normal School	29.08	753.8	29.88	759.0	54.9	12.7	70	SE	.....	.....	1	.....	8	.....	S	0	0	Very cloudy	M. Boyer, Director.
Perpignan	29.74	755.3	29.84	758.0	49.6	9.8	78	W	1.8	0.8	.....	.....	8	N	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.24	565.0	.....	.....	28.0	— 2.2	.....	.....	.....	.....	.....	.....	10	.....	NW	0.232	5.9	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.78	731.0	29.85	758.2	50.4	10.2	64	S	.....	.....	3	.....	n	S	S	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	24.85	631.2	.....	.....	32.0	0.0	77	SW	.....	.....	6	.....	8	.....	SW	0.067	1.7	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	29.72	755.0	29.76	755.8	45.9	7.7	95	SW	.....	.....	4	.....	10	SW	SW	0.08	2.	Raining	Lt E. Decante, Director
Rouen, Normal School	29.48	747.5	29.52	749.7	47.8	8.8	67	ESE	.....	.....	4	.....	8	.....	S	0.043	1.1	Very cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.38	746.2	29.41	746.9	50.9	10.5	56	SW	.....	.....	6	.....	5	SW	SW	0.031	0.80	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.47	748.4	29.63	752.6	44.6	7.0	74	S	.....	.....	4	.....	5	.....	SW	0.043	1.1	Cloudy	E. Renou, Director.
Tarbes, Normal School	28.72	729.0	29.81	757.2	50.0	10	66	E	.....	.....	1	.....	.....	.....	.....	0.000	0.001	.....	T. Huguet, Director
Toulouse, Observatory	29.13	740.0	29.85	758.2	48.9	9.4	89	SE	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	B. Baillaud, Dir.
Tours	29.44	747.7	29.63	752.7	46.4	8.0	72	W	.....	.....	3	.....	10	.....	WNW	0	0	Covered	M. de Tastes.
Versailles, Observatory	29.11	739.4	29.60	751.9	46.0	7.8	72	SW	.....	.....	4	.....	9	.....	.....	0	0	Al. covered	Dr. A. Bergny, Director
Villefranche-sur-Saone, N.S	29.14	740.1	29.87	758.6	44.6	7	91	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.1	30.07	763.8	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	9.	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.34	745.1	.....	.....	43.9	6.6	75	S	.....	.....	3	.....	9	.....	SSW	0.039	1.0	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.30	771.1	30.39	771.8	33.4	0.8	85	NNE	3.4	1.5	.....	.....	8	.....	.....	0	0	Al. covered	Marc Dechevrens, J.S.
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,866 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.04	737.6	29.90	759.5	34.2	1.2	70	S			2		4cks	SW		0	0		Prof. Dr. Hoh.
Berlin	29.69	754.2	29.87	758.7	37.0	2.8	70	SE			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.44	747.8	29.97	761.3	33.8	1.0	73	WSW			1		0			0	0		Royal University Obs'y
Carlsruhe	29.39	746.4	29.82	757.4	44.4	6.9	69	E			0		2	SW		0.157	4.0		Albert Senz.
Cassel	29.20	741.7	29.80	757.0	42.1	5.6	94	S			1		2	SW		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.53	750.1	29.91	759.7	41.7	5.4	69	ESE			2		3			0	0		Physical Society.
Friedrichshafen	28.43	722.2	29.93	760.2	30.6	— 0.8	75	S			1		0			0	0		Chief Telegrapher Wilhelm.
Hamburg	29.74	755.4	29.81	757.2	40.8	4.9	89	S			3		2			0	0		Dr. Reinhold Kleeman.
Kiel	29.76	756.0	29.78	756.4	40.1	4.5	84	SW			2		2			0 020	0.51		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.83	757.7	29.92	759.9	33.6	0.9	79	S			4		1			0	0		Prof. E. Luther.
Köslin			29.88	758.9	33.6	0.9		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.48	748.8	29.92	759.9	38.1	3.4	68	SSW			2		8	SW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.65	753.0	29.87	758.7	37.6	3.1	81	SSE			1	8c		S		0	0		Dr. Assmann.
Memel	29.85	758.1	29.89	759.3	30.9	— 0.6	85	S			4		0						Reinbrecht & Issermann
Munich (München)	28.04	712.2	29.89	759.3	31.8	— 0.1	78	N			4		0			0	0		Dr. C. Lang.
Neufahrwasser	29.89	759.1	29.90	759.5	34.7	1.5	76	SSW			2		0			0	0		A. Lothes.
Neustadt (Palatinate)	29.28	743.8	29.81	757.1	43.7	6.5	82	SW			1		4	W		0.008	0.2		Reallehrer Dicknether.
Posen	29.65	753.1	29.95	760.8	32.4	0.2	81	SW			4		6			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.28	743.8	29.84	758.0	45.0	7.2	80	SSW			2		7	WSW		0	0		Imp. University Observatory.
Stuttgart	28.86	733.0	29.81	757.2	44.6	7.0	57	S			2		3	W		0.035	0.9		Prof. Dr. Schoder.
Thorn	29.81	757.1	30.00	761.9	32.2	0.1	52	SW			2		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.36	720.4	29.93	760.3	37.0	2.8	55	SSE	0.9	0.4		3c		SW		0	0	Light fog	Reallehrer J. Hopfner.
Wustrow	29.81	757.2	29.84	757.8	37.0	2.8	96	SE			3		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.3	29.98	761.4	50.4	10.2		NE			3.0		5					½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.02	762.6	67.2	19.6	31	WSW	14	6.3			0			0	0	Blue sky	
Deesa	29.51	749.6	30.00	762.0	69.8	21.0	40	NNW	5.4	2.4			0			0	0	Misty	
Bombay	29.92	759.8	29.95	760.8	71.9	22.2	72	NNW	27	12.1			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.2	29.90	759.4	79.3	26.3	27	WNW	18	8.0			0			0	0	Blue sky	
Belgaum	27.36	695.0	29.90	759.3	77.2	25.1	43	WNW	6	2.7			0			0	0	Blue sky	
Lahore	29.19	741.4	29.97	761.3	56.6	13.7	75	Calm	1.8	0.8			0			0.18	4.6	Blue sky	
Roorkee	29.05	737.9	29.99	761.8	61.4	16.3	74	SE	4.6	2.1			10			0.18	4.6	Hailing	
Agra	29.39	746.6	29.98	761.6	62.8	17.1	83	E	4.3	2.0			8		E	0	0		
Nagpur	28.81	731.8	29.85	758.2	84.6	29.2	27	SSW	6.6	3.0			0			0	0	Blue sky	
Jubbulpore	28.54	724.8	29.91	759.8	76.6	24.8	43	E	2.6	1.2			6		E	0	0	D. clouds	
Lucknow	29.57	751.1	29.96	761.1	63.3	17.4	92	ESE	1.8	0.8			10			0.03	0.8	Drizzling	
Allahabad	29.70	754.4	30.03	762.8	62.4	16.9	86	NE	3.2	1.4			10		E	0.13	3.3	Overcast	
Patna	29.77	756.0	29.96	760.9	63.2	17.3	67	NNE	0.7	0.3			8	NE	NE	0.04	1.0	Thunder-storm	
Hazaribagh	27.92	709.2	29.98	761.4	68.0	20.0	58	NNW	8.1	3.6			8					Thunder-storm	
Cuttack	29.85	758.2	29.93	760.3	81.6	27.6	59	SW	2.3	1.0			0			0	0	Blue sky	
Calcutta (Alipore)	29.91	759.8	29.93	760.3	78.7	25.9	74	SSW	3.0	1.3			2		W	0	0	D. clouds	
Goalpara	29.55	750.5	29.94	760.6	74.2	23.4	40	Calm	3.7	1.6			1	W		0	0	D. clouds	
Chittagong	29.88	759.0	29.98	761.4	75.3	24.1	60	Calm	2.9	1.3			0			0	0	Misty	
Sibsagar	29.64	753.1	29.98	761.5	67.5	19.7	71	ENE	0.9	0.4			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,261 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.55	750.5	29.97	761.3	45.1	7.3	87	E	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Milan	29.41	747.1	29.95	760.7	39.2	4.0	87	WSW			1		0			0	0		Prof. Schiaparelli.
Padua	29 87	758.6	29.98	761.5	44.4	6.9	48	S	2.6	1.1			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29 04	737.5	29.98	761.4	41.0	5.0	58	NNE	1.8	0.8			1	S		0	0		Prof. P. F. Denza.
Genoa	29.77	756.1	29.97	761.1	53.6	12.0	56	SW	4.3	1.9			2	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.00	711.2	29.98	761 4	39.4	4.1	33	W			2		2			0	0		Prof. D. C. Bruno.
Pesaro	29.93	760.1	29.98	761.4	41.2	5.1	45	NW	10.5	4.7			0			0	0		Prof. Luigi Guidi.
Florence	29.72	754.8	29.98	761.6	49.1	9.5	30	W			2		0			0	0		Cav. F. Meucci.
Leghorn	29.91	759.8	30.00	762.1	54.0	12.2	59	SSW	4.3	1.9			3			0	0		Prof. P. Monte.
Rome	29.78	756.4	29.96	761.0	57.0	13.9	47	W	0	0			1			0	0		Prof. P. S. Ferrari.
Lecce	29.69	754.0	29.95	760.7	54.3	12.4	62	NNE	9.4	4.2			2			0	0		Prof. C. De Giorgi.
Cosenza	29.06	738.2	29.97	761 3	54.3	12.4	74	SW	1.3	0.6			7			0	0		Prof. D. Conti.
Cagliari	29.76	755.9	29.96	761.0	55.4	13.0	72	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.73	755.1	29.98	761 6	55.9	13.3	62	NE	1.8	0.8			9			0	0		Prof. G. Ciacciatore.
Syracuse	29.95	760.7	29.99	761.8	54.0	12.2	82	NNE	6.3	2.8			7	E		0.031	0.8		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.44	747.8	29.97	761.3	53.6	12.0	71	NE	0	0			6			0	0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.04	763.0	30.05	763.3	43.6	6.4	90	SE	1.5	0.7		ck	3s			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.87	758.7	30.07	763.8	48.4	9.1	88	N	2.4	1.1			1s			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.09	764.3	30.16	766.0	37.1	2.8	90	NNW	6.3	2.8			10n			0.880	22.35	Raining	The Staff.
Wakayama	29.96	761.0	30.02	762.5	44.6	7.0	94	N	2.7	1.2			10n			0.660	16.76	Raining	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.13	638.4	30.33	770.4	43.2	6.2	57	SE			1	2cs	0			0	0	Clear	Prof. L. Perez.
Leon	24.52	622.8	30.31	769.8	52.0	11.6	81	SW			1	1c	0			0	0	Clear	Prof. M. Leal.
Mazatlan	29.79	756.7	30.06	763.4	59.7	15.4	82	NE			1	2c	0			0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	29.15	588.0	30.31	769.9	45.7	7.6	81	Calm	0	0			10k			0	0	Covered	The Staff
Morelia	24.19	614.5			57.0	13.9	43	NE			2	2c	3k	SE	S	0	0	Fair	M. Fena, M. D.
Pabellon (Aguascallientes)	24.04	610.7	30.16	766.1	45.0	7.2	72	Calm			0	2c.	1s	SW		0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.44	773.2	41.0	5.0	52	S	0.2	0.1			0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.30	617.3	30.47	773.8	45.9	7.7	53	E			1	8	0	W		0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	30.17	766.2	30.18	766.5	66.6	19.2	92	SW			1	2	4	N	E	0.05	1.3	Fair	Prof. M. M. Chazaro.
Vera-Cruz	30.19	766.9	30.22	767.6	66.2	19.0	86	Calm	0	0			9sk			0	0	Very cloudy	Prof. J. Rossell
Zacatecas																			J. C. Castrillon

NOTE.—The elevation of Colima is 507.8 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.58	751.2	29.58	751.2	42.6	5.9		S			5					0.035	0.9		
Groningen	29.69	753.4	29.72	754.8	39.6	4.2		S			2					0.016	0.4		
Helder	29.58	751.3	29.58	751.3	39.6	4.2		SSE			4					0.094	2.4		
Hellevoetsluis	29.59	751.6	29.59	751.6	41.2	5.1	89	SSE			4					0.059	1.5		
Utrecht	29.61	752.1	29.66	753.3	42.6	5.9	79	SSE			4		8			0	0	Very cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.52	749.7	29.57	751.1	40.3	4.6	90	S	5.4	2.4	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.46	748.3	29.50	749.3	38.8	3.8	87	N	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiana	29.39	746.4	29.54	750.2	34.7	1.5	94	W	0	0	.....	.....	10	.....	.....	0.287	7.3	.....	
Tromsö	29.26	743.2	29.30	744.3	35.8	2.1	66	WSW	9	4	.....	.....	9	.....	.....	0.232	5.9	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.80	756.9	30.02	762.4	53.1	11.7	88	W	.....	.....	7	.....	4	.....	.....	1.299	33.0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.4	29.96	760.9	56.1	13.4	95	SSW	6.3	2.8	.....	.....	10	.....	.....	0.071	1.8	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.05	763.3	30.14	765.5	65.5	18.6	70	W	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.54	750.2	29.89	759.3	57.6	14.2	99	SW	26.2	11.7	.....	.....	10	.....	.....	0.252	6.4	.....	The Staff.
Ponta Delgada (Azores)	29.63	752.7	29.71	754.5	54.3	12.4	88	WNW	17.4	7.8	.....	.....	10	.....	.....	1.004	25.5	Rain & hail.	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. [illegible] e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C [illegible] M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa																		
Porto Praya, Cape VerdIds.	.....	.....	.....	.....	77.7	25.4	.....	NNE	.....	.....	3	.....	2	.....	NE	2	ENE	D. clouds.....	A. de SouzaRoza, 2ndL't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		F. Teixeira da Silva, Comd't.
Sado. Capt. J. A de Brito Capello,																		
St. Paul de Loando	.....	.....	29.91	759.8	80.4	26.9	.....	NW	.....	.....	2	.....	2	.....	NW	.....	.....	D. clouds....	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,																		
Macao, China	.....	.....	30.18	766.5	57.6	14.2	.....	N	.....	.....	4	.....	10	.....	N	2	N	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.61	752.1	29.63	752.6	25.5	— 3.6	93	ESE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.42	772.7	30.34	770.6	20.8	— 6.2	74	WSW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.42	747.3	29.57	751.0	11.3	—11.5	80	W	13	6	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.58	751.4	29.84	757.8	30.4	— 0.9	63	SW	7	3	.....	6ck	.....	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.91	734.3	29.97	761.2	3.0	—16.1	70	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.69	754.2	29.97	761.3	32.2	0.1	83	W	7	3	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.18	766.6	30.20	767.1	29.3	— 1.5	80	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.57	751.0	30.25	768.4	19.6	— 6.9	65	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.63	752.6	30.13	765.3	27.3	— 2.6	73	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.20	767.0	30.42	772.7	10.8	—11.8	85	SSW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.59	751.5	30.17	766.2	28.9	— 1.7	40	SSW	7.8	3.5	.....	.....	2k	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.14	714.8	30.76	781.4	— 7.4	-21.9	83	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.15	765.7	30.22	767.5	27.5	— 2.5	58	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.24	768.0	30.38	771.6	31.5	— 0.3	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.76	756.0	29.78	756.4	28.8	— 1.8	70	SW	11	5	.....	c	8cs	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.85	732.9	30.59	777.0	15.4	— 9.2	75	NW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Teich, A. M.
Tiflis	28.93	734.8	30.43	772.9	33.8	1.0	75	SE	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.56	750.7	30.00	761.9	29.7	— 1.3	76	SSE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.60	751.7	30.04	763.0	25.3	— 3.7	78	SSE	7	3	.....	.....	1	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yeniseisk	29.43	747.4	29.75	755.1	18.9	— 7.3	80	WSW	20	9	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.73	756.5	29.89	759.2	57.9	14.4	56	SW	2.7	1.22	.....	.....	4	.....	.....	0.030	0.76	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.77	756.1	29.82	757.5	57.6	14.2	80	SE	5.1	2.28	.....	.....	10	.....	.....	0.028	0.7	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.89	682.9	.....	.....	41.9	5.5	80	S	10.5	4.67	.....	0	8	.....	.....	0.591	15.0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.64	702.1	29.90	759.5	47.5	8.6	98	SW	9.7	4.34	.....	.....	10	.....	.....	0.154	3.9	Raining	The Staff.
Murcia, Met. Obs'y	29.85	758.2	30.00	762.0	62.1	16.7	56	SW	0.3	0.14	.....	5	5	NE	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.78	731.1	29.68	753.8	51.8	11.0	74	SE	4.3	1.9	.....	.....	10	.....	.....	0.626	15.9	Covered.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.11	764.8	30.18	766.5	66.3	19.1	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.93	760.1	29.98	761.4	81.0	27.2	73	SE	1.1	0.5	.....	.....	.....	.....	.....	0	0	Fine.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.3	30.11	764.8	62.1	16.7	80	SW	8.0	3.6	.....	0	10	.....	SW	0.013	0.3	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.05	763.2	30.14	765.5	75.6	24.2	83	E	11.8	5.26	.....	5ckn	4kn	E	E	0.079	2.00	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer, corrected for instrumental error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0-10.	Up'er 0-10.	Lo'er 0-10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.36	745.6	29.39	746.6	31.6	— 0.2	.....	S	.....	.....	4	.....	10	.....	.....	0.157	4.0	Snowing.....	
Umea	29.32	744.6	29.37	745.9	32.7	0.4	96	SW	.....	.....	2	.....	10	.....	.....	0.417	10.6	.....	
Hernosand	29.28	743.6	29.33	744.9	33.8	1.0	96	S	.....	.....	2	.....	10	.....	.....	0.067	1.7	.....	
Stockholm	29.41	746.9	29.58	751.4	36.1	2.3	87	SW	.....	.....	4	.....	10	.....	.....	0.012	0.3	.....	
Wisby	29.64	752.9	29.70	754.4	36.3	2.4	93	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.42	747.2	29.50	749.4	33.6	0.9	89	SSW	12.3	5.5	.....	.....	10	.....	WSW	0.017	0.45	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 10° 06', W. 79° 35'	.....	.....	29.93‡	760.1‡	79.2	26.2	.....	NNE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.44	722.4	29.02	760.0	36.1	2.3	90	NW	.....	.....	2	.....	9	.....	.....	0.021	0.6	Foggy	The Observatory.
Zurich	28.23	717.1	29.03	760.2	37.4	3.0	67	SE	.....	.....	1	.....	3	.....	.....	0	0	Fair...	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.3 mm.; Thermometer, —0.6 Cent. Relative Humidity, +16 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.1	44.2	6.8	67	N	10	4.5	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.93	760.3	58.1	14.5	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.87	758.7	53.2	11.8	93	SE	.....	.....	1	.....	10n	.....	SW	0.54	13.7	....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.32	744.7	29.33	745.0	21	— 6.1	.....	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Chatham, N. B	29.30	745.5	29.42	747.3	22.0	— 5.1	93	SW	7	3.1	.....	.....	10n	.....	.....	0.03	0.8	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.43	747.5	29.47	748.5	30.0	— 1.1	92	SW	14	6.3	.....	.....	10n	.....	.....	0.01	0.3	Light snow..	H. J. Cundall, C. E.
Cornwall, Ontario	30.02	762.5	30.24	768.1	— 2.0	—18.9	100	NW	.....	.....	4	0	0	.....	.....	0	0	Clear, ...	James Smith, M. A.
Dalhousie, N. B	29.24	742.7	29.42	747.3	12.0	—11.1	.....	W	.....	.....	1	.....	10n	.....	.....	0.15	3.8	Light snow..	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	11.6	—11.3	80	N	48	21.5	.....	.....	10n	.....	.....	0.40	10.2	Light snow.	J. McWilliams.
Fredericton, N. B	29.46	748.3	29.52	749.8	24.0	— 4.4	61	SW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear, ...	Prof. Harrison.
Fort Garry, Manitoba	29.21	741.9	30.16	766.1	—12.0	—24.4	100	S	18	8.0	.....	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	29.16	740.7	30.38	771.6	11.0	—11.7	100	Calm	.....	.....	0	.....	10n	.....	.....	0.10	2.5	Cloudy.....	James Grant.
Halifax, N. S	29.48	748.8	29.62	752.3	34.0	1.1	77	SW	14	6.3	.....	0	8ks	.....	.....	0	0	Cloudy.....	A. Allison.
Hamilton, Ontario	30.03	762.7	30.44	773.2	10.7	—11.8	66	W	.....	.....	1	3ck	0	W	.....	0	0	Clear, ...	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.96	761.0	30.34	770.6	2.9	—16.2	77	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear, ...	S. Woods, M. A.
Little Glace Bay, N. S	29.40	746.7	29.44	747.8	30.6	— 0.8	93	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast....	C. H. Rigby.
Montreal, Quebec	29.93	760.2	30.15	765.8	1.8	—16.8	82	NW	20	8.9	.....	.....	0	.....	.....	0	0	Clear.	C. H. McLeod, C. E
Moose Factory, Ontario	30.33	770.4	30.38	771.6	—38.7	—36.5	100	SW	.....	.....	3	0	3s	.....	.....	0	0	Fair...	J. R. Nelson.
Norwood, Ontario	29.68	753.3	30.37	771.4	— 1.6	—18.7	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.69	754.1	30.50	774.7	— 9.3	—22.9	56	W	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.52	749.8	30.37	771.4	— 2.6	—19.2	83	N	.....	.....	1	3k	0	.....	.....	0	0	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.66	753.4	30.42	772.7	11.1	—11.6	60	N	10	4.5	.....	10k	0	NW	.....	0	0	Fair.....	H. Morgan.
Port Stanley, Ontario	29.69	754.1	30.40	772.1	14.2	— 9.9	82	W	7	3.1	.....	5k	0	.....	.....	0.01	0.3	Fair.....	M. Payne.
Quebec, Quebec	29.54	750.3	29.89	759.2	2.0	—16.7	72	W	.....	.....	5	0	0	.....	.....	0.20	5.1	Clear.....	Capt. Ashe, R. N.
Rockliffe, Ontario	29.85	758.2	30.38	771.6	—10.7	—23.7	68	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	W. H. McIntyre.
St. John, N. B	29.38	746.2	29.55	750.6	29	— 1.7	77	SW	15	6.7	.....	9ck	0	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.93	762.6	30.42	772.7	9.4	—12.6	94	N	18	8.0	.....	.....	10ks	.....	.....	0.05	1.3	Cloudy.....	Mrs. K. Stewart.
Stratford, Ontario	28.99	736.3	30.41	772.4	- 7.1	—13.8	95	NE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B	29.52	749.8	29.56	750.8	30.0	— 1.1	81	S	11	4.9	.....	.....	10n	.....	.....	0	0	Cloudy.....	T. C. Hill, C. E.
Toronto, Ontario	30.03	762.7	30.46	773.7	3.5	—16.8	87	N	6	2.7	.....	0	0	.....	.....	0.010	0.25	Clear.....	Magnetic Observatory
Windsor, N. S	29.45	748.0	29.55	750.6	33.0	0.6	100	SW	15	6.7	.....	.....	10ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M. A
Woodstock, Ontario	29.25	742.9	30.43	772.9	9.6	—12.4	81	N	9	4.0	.....	0	9ks	.....	NW	0.25	6.3	Cloudy.....	Professor Wolverton.
Yarmouth, N. S	29.64	752.8	29.71	754.6	36.3	2.4	90	SW	32	14.3	.....	5k	5n	W	.....	0	0	Overcast....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.78	755.6	30.02	762.5	12	—11.1	100	S	.....	.....	.....	.....	10	.....	.....	0.20	5.1	Snowing.....	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	29.69	754.1	26.6	— 3.0	.....	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Grantor is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.89	759.2	30.14	765.5	21	— 6.1	71	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.76	755.9	30.49	774.4	5	—15.0	75	NW	6	2.7	.....	0	5s	.....	NW	0.02	0.5	Fair	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.15	740.4	30.35	770.9	40	4.4	48	N	8	3.6	.....	5c	Sm'e	Calm	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.10	764.5	30.11	764 8	35	1.7	70	W	11	4.9	.....	2c	Haze	W	Calm	0	0	Clear.	
Augusta, Georgia	30.16	766.1	30.37	771.4	38	3.3	81	NW	5	2.2	.....	0	2s	.....	NW	0	0	Fair	
Baltimore, Maryland	30.12	765.0	30.17	766.3	34	1.1	70	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.07	763.8	30.09	764.3	32	0.0	79	W	12	5.4	.....	2cs	0	W	.....	0	0	Clear.	
Bismarck, Dakota	28.02	711.7	29.88	758.9	4	—15.6	87	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.80	731.5	30.16	766.1	48	8.9	85	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Boise City, Idaho	27.27	692.6	30.23	767.8	27	— 2.8	64	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.74	755.4	29.90	759.4	34	1.1	61	W	19	8.5	.....	0	1s	.....	Calm	0	0	Clear.	
Brackettville, Texas	29.09	738.9	30.19	766.8	45	7.2	92	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.08	738.6	30.21	767.3	— 6	—21.1	100	S	30	13.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.19	766.8	30.24	768.1	50	10.0	93	N	4	1.8	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Buffalo, New York	29.63	752.6	30.41	772.4	10	—12.2	79	N	7	3.1	.....	0	Haze	.....	Calm	0.03	0.8	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.84	757.9	30.16	766.1	8	—13.3	55	NW	16	7.2	.....	0	5ks	.....	NW	Inap.	Inap.	Fair	
Cairo, Illinois	29.98	761.5	30.39	771.9	38	3.3	72	NE	8	3.6	.....	2cs	0	Calm	.....	0	0	Fair	
Campo, California	27.43	696.7	30.00	762.0	31	— 0.6	58	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	45	7.2	76	N	7	3.1	.....	2cs	2s	SW	Calm	0.02	0.5	Fair	
Cape Henry, Virginia	30.18	766.1	30.20	767.1	38	3.3	67	SW	8	3.6	.....	0	2s	.....	Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.27	768.8	30.29	769.4	44	6.7	76	N	5	2.2	.....	5c	0	SW	.....	0.06	1.5	Fair	
Cape May, New Jersey	30.10	764.5	30.13	765.3	40	4.4	64	SW	23	10.3	.....	0	0	.....	.....	0	0	Clear.	
Castroville, Texas	29.46	748.3	30.18	766.6	49	9.4	85	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Cedar Keys, Florida	30.26	768.6	30.28	769.1	56	13.3	94	NE	7	3.1	.....	.....	10s	.....	NE	1.55	39.4	Cloudy	
Charleston, South Carolina	30.23	767.8	30.29	769.4	46	7.8	77	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.41	747.0	30.26	768.6	35	1.7	80	NW	1	0.4	.....	5c	Sm'e	SW	Calm	0	0	Fair	
Chattanooga, Tennessee	29.53	750.0	30.38	771.6	35	1.7	80	Calm	0	0	.....	5cs	Sm'e	Calm	Calm	0	0	Fair	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	33	0.6	51	W	28	12.5	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.69	754.1	30.44	773.2	26	— 3.3	63	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.69	754.1	30.38	771.6	36	2.2	61	N	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Cleveland, Ohio	29.64	752.8	30.43	772.9	20	— 6.7	59	N	12	5.4	.....	5k	0	NW	.....	Inap.	Inap.	Fair	
Coleman City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Columbus, Ohio	29.47	748.5	30.36	771.1	30	— 1.1	68	N	12	5.4	.....	.....	10ks	.....	NW	0	0	Cloudy	
Concho, Texas	28.33	719.6	30.07	763.8	38	3.3	81	W	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.81	757.2	30.29	769.4	47	8.3	70	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.76	755.9	30.46	773.7	17	— 8.3	67	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	31	— 0.6	79	Calm	0	0	.....	2k	0	W	.....	0	0	Fair	
Deadwood, Dakota	25.21	640.3	.....	.....	19	— 7.2	25	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Decatur, Texas	29.08	738.6	30.29	769.4	44	6.7	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.47	748.5	30.30	769.6	40	4.4	82	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.73	628.1	29.95	760.7	14	—10.0	64	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.45	748.0	30.43	772.9	8	—13.3	78	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.72	754.9	30.46	773.7	14	—10.0	82	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Dodge City, Kansas	27.52	699.0	30.01	762.2	14	—10.0	64	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.70	754.4	30.48	774.2	11	—11.7	60	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.66	753.4	30.47	773.9	—15	—26.1	71	Calm	0	0	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Eagle Pass, Texas	29.47	748.5	30.22	767.6	52	11.1	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.50	749.3	29.56	750.8	30	— 1.1	68	SW	12	5.4	.....	8k	Haze	W	Calm	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.63	752.6	30.40	772.1	20	— 6.7	70	N	13	5.8	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.76	755.9	30.51	774.9	0	—17.8	70	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Florence, Arizona	28.58	725.9	30.18	766.6	43	6.1	75	NE	3	1.3	.....	8cs	0	Calm	.....	0	0	Fair	
Fort Apache, New Mexico	.....	.....	.....	.....	24	— 4.4	74	E	3	1.3	.....	5cs	0	Calm	.....	0.04	1.0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.73	704.3	29.68	753.9	10	—12.2	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.70	678.2	.....	.....	26	— 3.3	88	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	29	— 1.7	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.74	755.4	30.32	770.1	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.33	643.4	30.33	770.4	46	7.8	32	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.98	736 1	30.32	770.1	34	1.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.14	689.3	.....	.....	5	—15.0	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.94	709.7	29.93	760.2	41	5.0	91	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.04	737.6	30.22	767.6	29	— 1.7	67	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.96	710.2	.....	.....	4	—15.6	87	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	78	NW	.....	.....	1	.....	10s	.....	W	0	0	Cloudy	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.45	722.6	30.09	764 3	38	3.3	63	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.27	768.8	30.31	769.9	52	11.1	93	N	8	3.6	.....	.....	10n	.....	E	0.04	1.0	Light rain	
Graham, Texas	29.15	740.4	30.28	769.1	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.75	755.6	30.47	773.9	15	— 9.4	82	NE	6	2.7	.....	2k	0	N	.....	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.28	743.7	30.27	768.8	34	1.1	79	NW	2	0.9	.....	0	2s	.....	SW	0	0	Fair	
Indianapolis, Indiana	29.55	750.6	30.38	771.6	31	— 0.6	69	N	3	1.3	.....	2c	0	W	.....	0	0	Clear	
Indianola, Texas	30.27	768.8	30.30	769.6	51	10.6	86	N	18	8.0	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Jacksboro, Texas	29.06	738.1	30.24	768.1	40	4.4	65	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.27	768.8	30.30	769.6	54	12.2	87	N	6	2.7	.....	.....	10s	.....	Calm	1.24	31.5	Cloudy	
Keokuk, Iowa	29.74	755.4	30.42	772.7	19	— 7.2	77	NE	3	1.3	.....	0	1s	.....	Calm	0	0	Clear	
Key West, Florida	30.15	765.8	30.18	766.6	72	22.2	90	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.22	767.6	30.24	768.1	44	6.7	68	W	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear.	
Knoxville, Tennessee	29.32	744.7	30.39	771.9	33.5	0.8	84	SW	1	0.4	.....	0	8s	.....	SW	0	0	Fair	
La Crosse, Wisconsin	29.64	752.8	30.48	774.2	3	—16.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.25	666.7	30.40	772.1	28	— 2.2	54	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Laredo, Texas	29.81	757 2	30.17	766.3	46	7.8	92	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Leavenworth, Kansas	29.45	748.0	30.37	771.4	22	— 5.6	72	E	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Lewiston, Idaho	.....	.....	.....	.....	25	— 3.9	88	W	1	0.4	.....	5k	5s	Calm	Calm	0	0	Cloudy	
Little Rock, Arkansas	29.96	761.0	30.34	770.6	39	3.9	82	SW	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.71	754.6	30.06	763.5	47.0	8.3	62	NE	7	3.1	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.75	755.6	30.34	770.6	35	1.7	70	N	10	4.5	.....	5cs	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.52	749.8	30.23	767.8	38	3.3	54	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Madison, Wisconsin	29.35	745.5	30.44	773.2	11	—11.7	60	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.68	753.9	30.48	774.2	1	—17.2	71	NW	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear	
Mason, Texas	28.59	726.2	30.40	772.1	48	8.9	85	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.96	761.0	30.32	770.1	39	3.9	63	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.66	753.4	30.48	774.2	10	—12.2	79	NW	8	3.6	.....	0	1s	.....	Calm	Inap.	Inap.	Clear.	
Mobile, Alabama	30.28	769.1	30.33	770.4	51	10.6	79	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.11	764.8	30.36	771.1	41	5.0	82	N	3	1.3	.....	10cs	0	W	.....	0	0	Cloudy	
Morgantown, West Virginia	29.26	743.2	30.31	769.9	34	1.1	61	NE	26	11.6	.....	.....	10ks	.....	NW	0	0	Cloudy	
Mt. Washington, N. H.	23.11	587.0	29.47	748.5	— 8	—22.2	100	NW	78	34.9	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.77	756.1	30.33	770.4	37	2.8	71	Calm	0	0	.....	1cs	Sm'e	Calm	Calm	0	0	Clear	
New Haven, Connecticut	29.92	760.0	30.04	763.0	36	2.2	71	NW	15	6.7	.....	5k	0	W	.....	0	0	Fair	
New London, Connecticut	29.93	760.2	29 98	761.5	34	1.1	70	WNW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.24	768.1	30.31	769.9	54	12.2	86	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	29.90	759.4	29.95	760.7	36	2.2	71	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	40	4.4	75	NW	.....	.....	1	5cs	0	Calm	.....	.....	.....	Fair	
New York, New York	29.88	758.9	30.06	763.5	30	— 1.1	78	SW	10	4.5	.....	2k	Haze	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.16	766.1	30.22	767.6	38	3.3	72	NW	5	2.2	.....	0	8s;fg	.....	Calm	0	0	Fair	
North Platte, Nebraska	27.15	689.6	29.91	759.7	15	— 9.4	74	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	36.0	2.2	95	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	29.12	739.6	30.34	770.6	11	—11.7	80	SE	4	1.8	.....	1cs	0	Calm	.....	0	0	Clear	
Oswego, New York	29.99	761.7	30.34	770.6	13	—10.6	81	NW	18	8.0	.....	2k	0	NW	.....	0.01	0.3	Fair	
Pembina, Dakota	29.12	739.6	30.06	763.5	— 8	—22.2	100	S	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.32	770.1	30.35	770.9	50	10.0	86	NE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Philadelphia, Pennsylvania	30.05	763.3	30.11	764.8	33	0.6	79	SW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.93	734.8	30.81	782.6	41	5.0	57	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.56	446.0	29.77	756.1	4	—15.6	48	SW	52	23.2	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.20	741.7	30.05	763.3	42	5.6	83	S	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.07	611.4	29.84	757.9	— 23	— 5.0	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.48	748.8	30.36	770.9	28	— 2.2	77	NW	11	4.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Port Huron, Michigan	29.70	754.4	30.44	773.2	8	—13.3	78	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.68	753.9	29.73	755.1	27	— 2.8	67	NW	11	4.9	.....	.....	5n	.....	NW	Inap.	Inap.	Light snow.	
Portland, Oregon	30.12	765.0	30.20	767.1	34	1.1	90	N	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	46	7.8	69	NW	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.84	630.9	30.20	767.1	16	— 8.9	83	S	.....	.....	1	0	1s	.....	Calm	0	0	Clear	
Punta Rassa, Florida	30.19	766.8	30.21	767.3	65	18.3	94	E	3	1.3	.....	8c;ck	0	Calm;W	.....	0	0	Fair	
Red Bluff, California	29.70	754.4	30.08	764.0	39	3.9	64	NW	8	3.6	.....	8cs	0	S	.....	0	0	Cloudy	
Rio Grande City, Texas	30.09	764.3	30.31	769.9	50	10.0	93	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.60	754.1	30.37	771.4	12	—11.1	80	NW	15	6.7	.....	0	5ks	.....	Calm	0.10	2.5	Fair	
Roseburg, Oregon	29.60	751.8	30.20	767.1	30	— 1.1	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.96	761.0	30.03	762.7	43	6.1	83	S	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
St. Louis, Missouri	29 80	756.9	30.42	772.7	26	— 3.3	75	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.46	748.3	30.42	772.7	—10	—23.3	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.76	654.3	30.09	764.3	20	— 6.7	56	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.60	751 8	30.21	767.3	50	10.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
San Diego, California	30.00	762.0	30.07	763.8	50	10.0	52	E	7	3.1	.....	.....	8ks	.....	SE	0	0	Cloudy	
Sandusky, Ohio	29.71	754.6	30.44	773.2	20	— 6.7	70	N	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.06	763.5	30.09	764.3	32	0.0	79	W	18	8.0	.....	5k	0	W	.....	0	0	Fair	
San Francisco, California	29.97	761.2	30.03	762.7	50	10.0	79	SE	13	5.8	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	12	—11.1	23	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.26	768.6	30.36	771.1	47	8.3	85	N	3	1.3	.....	8ck	0	W	.....	0.13	3.3	Fair	
Shreveport, Louisiana	30.07	763.8	30.29	769.4	52	11.1	73	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.27	768.8	30.31	769.9	41	5.0	91	NW	2	0.9	.....	2c	Fog	SW	.....	0.16	3.8	Fair	
Socorro, New Mexico	25.60	650.2	29.67	753.6	16	— 8.9	66	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.73	755.1	30.46	773.7	24	— 4.4	74	N	5	2.2	.....	5c	1s	W	NW	0	0	Fair	
Springfield, Massachusetts	29.88	758.9	30.01	762.2	32	0.0	50	NW	14	6.3	.....	0	2s	.....	W	0	0	Fair	
Stockton, Texas	27.21	691.1	30.21	767.3	34	1.1	43	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.80	756.9	29.85	758.2	34	1.1	70	W	28	12.5	.....	2cs	2s	W	W	0	0	Fair	
Toledo, Ohio	29.69	754.1	30.44	773.2	20	— 6.7	70	N	10	4.5	.....	2k	0	N	.....	0	0	Clear	
Tucson, Arizona	27.64	702.0	30.19	766.8	38	3.3	62	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.77	756.1	30.30	769.6	22.6	— 5.3	86	SE	1	0.4	.....	0	1s	.....	.....	0	0	Clear	
Uvalde, Texas	29.38	746.2	30.22	767.6	49	9.4	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	49	9.4	57	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.16	613.6	29.04	752.8	24	— 4.4	48	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.59	751.6	29.96	761 0	46	7.8	80	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.05	763.3	30.17	766.3	36	2.2	61	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	79	NW	.....	.....	1	5c	0	SW	.....	0	0	Fair	
Wilmington, North Carolina	30.20	767.1	30.28	769.1	40	4.4	82	Calm	0	0	.....	5c	0	Calm	.....	0.04	1.0	Fair	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	14	—10.0	82	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.88	758.9	29.92	760.0	38	3.3	81	W	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.94	735.1	30.41	772.4	0	—17.8	100	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.94	760.5	30.10	764.5	45	7.2	39	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.09	764.3	30.14	765.5	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	73	22.8	82	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.5	75.5	24.2	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	79	26.1	82	NE	.....	.....	3	4c	5k	NE	.....	0.020	0.51	Fair	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.43	747.5	29.98	761.5	82	27.8	68	Calm	.....	.....	0	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.83	757.7	29.88	758.9	—27.0	—32.8	.....	S	11	4.9	.....	.....	9s	.....	S	0	0	Threatening	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,560 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,060 (?) ft., or 628 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.33‡	770.4‡	.....	.....	55	12.8	60	NE	5	2.2	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H.	29.94‡	760.5‡	.....	.....	2	—16.7	44	SW	5	2.2	.....	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	30.16‡	766.1‡	.....	.....	38	3.3	86	NNE	.....	.....	4	.....	10n	.....	NE	0.66	16.8	.....	.....	Raining	
Adams, N. 23° 30′, W. 111° 15′	30.10‡	764.5‡	.....	.....	65	18.3	73	E	.....	.....	2	.....	2	.....	E	.....	.....	Smooth	E	Fair	
Colorado, New York, N. Y.	30.06‡	763.5‡	.....	.....	32	0.0	.....	W	15.3	6.8	.....	.....	2	.....	W	0	0	.....	.....	Misty	
Constitution, N. 10° 13′, W. 80° 02′	29.94‡	760.5‡	.....	.....	77	25.0	86	NNE	.....	.....	5	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear	
Enterprise. Villafranca, France	29.99‡	761.7‡	.....	.....	55	12.8	68	S	.....	.....	1	.....	9	.....	SSE	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.27‡	768.8‡	.....	.....	39	3.9	55	WSW	1.7	0.8	.....	.....	1	.....	W	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.03‡	762.7‡	.....	.....	48	8.9	85	S	1.2	0.5	.....	.....	10	.....	S	0	0	.....	.....	Overcast	
Kearsarge, N. 12° 40′, W. 81° 54′	30.01‡	762.2‡	.....	.....	79	26.1	78	ENE	.....	.....	5	.....	5	.....	ENE	.....	.....	Mod'ate	ENE	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.05‡	763.3‡	.....	.....	52	11 1	73	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Marion, S. 30° 30′, W. 45° 44′	29.87‡	758.7‡	.....	.....	76	24.4	82	SSE	.....	.....	4	.....	10	.....	S;E	Mod'ate	Mod'ate	Con-fused	S;NE	Cloudy	
Michigan, Erie, Pa.	30.37‡	771.4‡	.....	.....	19	— 7.2	81	N	.....	.....	3	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	30.36‡	771.1‡	.....	.....	36	2.2	80	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
New Hampshire, Port Royal, S. C.	30.29‡	769.4‡	.....	.....	47	8.3	85	N	9	4.0	.....	.....	8	.....	NW	0.10	2.5	.....	.....	Fair	
Nipsic. Port of Spain, Trinidad, W.I.	30.02‡	762.5‡	.....	.....	78	25.6	78	E	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡	.....	.....	75	23.9	81	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Long	W	Fair	
Palos, Tientsin, China	30.39‡	771.9‡	.....	.....	32	0.0	89	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.	30.17‡	766.3‡	.....	.....	36	2.2	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, Callao, Peru	29.91‡	759.7‡	.....	.....	71	21.7	90	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	D. clouds	
Powhatan, Off Norfolk, Va.	30.23‡	767.8‡	.....	.....	40	4.4	65	W	.....	.....	1	.....	2	.....	W	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	29.98‡	761.5‡	.....	.....	61	16.1	61	ENE	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Fair	
Ranger. Mare I'd, Navy Yard, Cal.	30.03‡	762.7‡	.....	.....	53	11.7	73	NNW	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Richmond, Hong-Kong, China	30.15‡	765.8‡	.....	.....	59	15.0	76	ENE	.....	.....	2	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas †	30.44‡	773.2‡	.....	.....	50	10.0	93	NW	3	1.3	.....	.....	10	.....	N	0.21	5.3	.....	.....	Cloudy	
Santee. Annapolis, Md.	30.15‡	765.8‡	.....	.....	37	2.8	81	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	29.98‡	761.5‡	.....	.....	76	24.4	69	W	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.14‡	765.5‡	.....	.....	31	— 0.6	100	SW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Swatara, N. 35° 51′, W. 19° 40′	29.85‡	758.2‡	.....	.....	64	17.8	89	SW	.....	.....	5–6	.....	10	.....	SW	.....	.....	Rough	W	Squally	
Tennessee, Norfolk, Va.	30.24‡	768.1‡	.....	.....	35	1.7	??	NW	8	3.6	.....	.....	2	.....	W	0	0	.....	.....	D. clouds	
Trenton, Toulon, France	29.95‡	760.7‡	.....	.....	55	12.8	68	E	.....	.....	2	.....	8	.....	.....	1 h'r	1 h'r	.....	.....	Cloudy	
Tuscarora, N. 13° 07′, W. 85° 30′	30.01‡	762.2‡	.....	.....	80	26.7	55	NE	.....	.....	4	.....	0	.....	.....	0	0	Mod'ate	S;E	Clear	
Wabash, Boston, Mass.	29.86‡	758.4‡	.....	.....	36	2.2	71	W	7	3.1	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, Montevideo, Uruguay †	30.49‡	774.4‡	.....	.....	75	23.9	72	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	W	Fair	
Wyoming, Naples, Italy	29.95‡	760.7‡	.....	.....	57	13.9	41	S	.....	.....	0–1	.....	2	.....	S	.....	.....	Smooth	S	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 54° 53′, W. 21° 06′	29.14‡	740.1‡	39	3.9		NW			3		10		NW			Mod'ate	WNW	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 47° 02′, W. 45° 08′	30.07‡	763.8‡	29	— 1.7	45	NW			8		9		NW	0	0	Heavy	N	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger, N. 23° 09′, W. 100° 36′ †	30.17‡	766.8‡				N			3		2		N			Smooth	N	Fair	
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES.																			
Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Haine																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.																			
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer																			
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Yokohama, Japan	30.06‡	763.5‡	41	5.0	100	NNE			4		10		NNE			Smooth		Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 41° 07′, W. 133° 32′ †	30.41‡	772.7‡	48	8.9		N			3–4		ns		N			Mod'ate	N	Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander N. 36° 07′, W. 122° 06′ †	30.00‡	762.0‡	52	11.1		N			5		0			0	0	Mod'ate	W	Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		

PACIFIC MAIL S. S. CO., MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.

S. S. Alaska, D. S. Austin, Acapulco.....exico.....†	29.99‡	761 7‡	78	25.6	91	ENE			2		2		Calm	0	0	Light	E	Fair.....	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann....																			E. Polemann.
S. S. City of Panama, M. Connolly, N. 23° 16', W. 110° 30'...†.	29.97‡	761.2‡	68	20.0	.....	NNE			3		2		NNE	0	0	Mod'ate	NW	Clear.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury N. 25° 00', E. 119° 50'....†.	30 00‡	762.0‡	59	15.0	82	ENE			6	Sck		NE		0	0	Mod'ate	NE	Misty.....	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths Esquimault Harbor, Vancouver I'd.†	30.12‡	765.0‡	38	3.3	.....	WNW			2		5?		S	0	0			Clear?.....	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest.																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes.																			J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents. Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,...																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 42° 16', E. 85° 05'..... * .	30.07‡	763.8‡	56	13.3	.....	SW			6		5		SW	.....	.....	Rough	SW	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 28° 05' W. 70° 10'.....	30. 44‡	770 6‡	72	22.2	.....	WSW			4		5		W	Blank	Blank	Rough Cross		Clearing.....	
Iron Cross, W. Randall, N. 41° 41', W. 16° 12'..	29 46‡	748.3‡	56.6	13.1	97	SSW			5–6		9		SW;W	Slight	Slight	Heavy Cross	W;NW	Raining	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

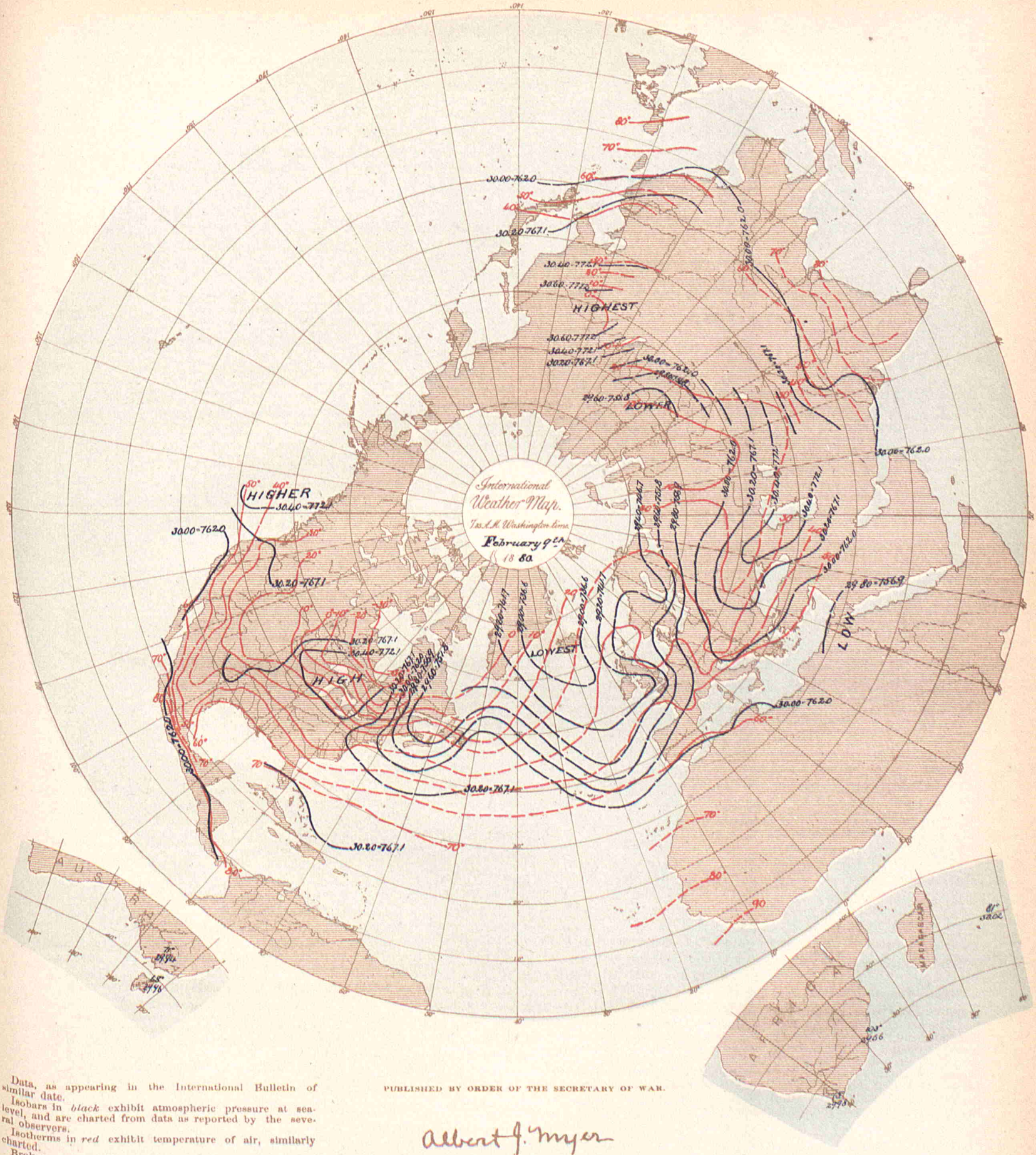
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 10, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.29	769.3	.....	.....	.....	SW	.....	.....	1	.....	3	.....	.....	Inap.	Inap.	Pretty fair.	Kesxuche.
Nemours	.....	.....	30.06	763.4	63.0	17.2	81	NW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Tourillere.
Algiers	.....	.....	29.95	760.6	53.6	12.0	67	WNW	.....	.....	4	.....	10	.....	.....	0	0	Covered.	Foufrede.
La Calle	.....	.....	30.02	762.4	59.5	15.3	93	SW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Jacques.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Sfax	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Saida	.....	.....	30.04	762.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Watrin.
Tebessa	.....	.....	30.10	764.6	63.7	17.6	60	WSW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bertrand.
Laghouat	.....	.....	30.12	765.1	68.7	20.4	4	SSW	.....	.....	5	.....	0	.....	.....	0	0	Clear.	Chanvaux.
Biskra	.....	.....	30.04	763.1	65.1	18.4	53	WNW	.....	.....	3	.....	7	.....	.....	0	0	Very cloudy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.6	29.94	760.5	21.9	— 5.6	90	S	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.10	739.2	29.91	759.8	25.2	— 3.8	87	SE	1.6	0.7	.....	.....	2	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.03	737.3	29.97	761.2	21.2	— 6.0	100	.....	.....	.....	.....	.....	10	.....	.....	0	0	Foggy	Julius Mikolik.
Gratz	28.57	725.7	29.90	759.4	23.2	— 4.9	76	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.49	723.6	30.00	762.1	25.7	— 3.5	69	SSE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster, Observatory	28.46	722.5	29 87	758.8	21.7	— 5.7	98	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	The Staff.
Lemberg	28.85	732.8	29.91	759.7	21.2	— 6.0	95	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.80	756.9	29.91	759.8	47.7	8.7	67	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.51	749.5	30.00	762.0	25.9	— 3.4	82	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.65	753.0	29.94	760.4	35.4	1.9	73	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.83	757.6	29.93	760.2	45.5	7.5	64	Calm	.....	.....	0	.....	9	.....	.....	0.087	2.2	Rain & fog.	P. Busin.
Vienna	29.18	741.1	29.92	760.0	20.1	— 6.6	80	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	I.R.Central Met. Ob'ey.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.35	745.5	29.56	750.7	43.0	6.6	79	SSW	.....	.....	1	10	.....	SW	.....	0.055	1.4	Solar halo	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	29.46	748.2	29.58	751.4	45.9	7.7	75	SW	.....	.....	2	.....	7	.....	.....	0.276	7.0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.27	743.4	29.37	746.0	43.5	6.4	.....	SSE	11	4.9	.....	.....	4	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	29.36	745.7	29.37	746.0	43	6.1	.....	SSE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	G.Carrick.
Armagh, (Observatory)	29.17	740.9	29.41	747.0	43.0	6.1	.....	SSW	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.44	747.8	47.8	8.8	.....	SSE	5	2.2	.....	.....	7	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	28.90	734.0	29.41	747.0	46.0	7.8	.....	NW	1	0.4	.....	.....	8	.....	.....	.....	.....	D clouds	Thomas Mackereth.
Bradford, Yorkshire	29.08	737.3	29.43	747.5	44.1	6.7	80	NW	.....	.....	2	.....	9	.....	.....	0.12	3.0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	30.02	762.5	30.05	763.3	78.5	25.8	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.37	746.0	29.46	748.3	46.0	7.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.46	748.3	45.0	7.2	.....	SW	.....	.....	0–1	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham (School M. E.)	29.37	746.0	29.50	749.3	46.1	7.8	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds	F. Magauran, Q. M. S'gt., R.E
Donaghadee	29.36	745.7	29.41	747.0	47	8.3	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.47	748.5	29.50	749.3	43	6.1	.....	WSW	.....	.....	2	.....	4	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth (Observatory)	29.16	740.7	29.38	746.2	46.7	8.2	.....	ESE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.64	702.0	29.76	755.9	73.6	28.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.85	758.2	87	30.6	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.33	745.0	44	6.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	29.67	758.7	29.93	760.2	60.8	16.0	.....	W	.....	.....	6	.....	3	.....	.....	.....	.....	Blue sky	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.18	741.1	29.39	746.5	42.1	5.6	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	D. G. Maclean.
Great Yarmouth	29.46	748.3	29.46	748.3	44	6.7	.....	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.31	744.5	29.48	748.8	45.6	7.6	.....	SSW	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.17	740 9	29.40	746.7	45	7.2	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Dr.S.E.Hoskins, F.R.S.
Helston	29.55	750.6	29.67	753.6	49	9.4	.....	E	.....	.....	6	3ck	.....	.....	.....	0.02	0.5	Fine	M. P. Moyle.
Holyhead	29.35	745.5	29.41	747.0	47	8.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.10	739.1*	29.39	746.5	49.4	9.7	.....	S	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew (Observatory)	29.45	748.0	29.49	749.0	46.0	7.8	.....	SSW	2	0.9	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.35	745.5	29.61	752.1	48.5	6.4	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	58	14.4	.....	NW	.....	.....	.....	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.21	741.9	29.30	744.2	41	5.0	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.17	766.3	71.0	21.7	.....	N	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.29	744.0	29.48	748.8	47.2	8.4	.....	SW	.....	.....	1	1c	.....	.....	.....	0.242	6.16	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.94	735.1	29.46	748.3	44.0	6.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.25	742.9	29.51	749.5	48	8.9	.....	S	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	29.32	744.7	29.40	746.7	46.8	8.2	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	29.34	745.2	30.42	747.3	46	7 8	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Wm. Kennedy.
St. Ann's Head	29.26	743.2	29.42	747.3	44	6.7	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.27	743.4	42.9	6.1	.....	SE	30	13.4	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.83	757.7	29.90	759.4	46.6	8.1	.....	NNE	.....	.....	2	.....	9	.....	.....	Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	29.19	741.4	29.47	748.5	45.5	7.5	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.41	747.0	29.44	747.8	43.8	6.6	86	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.43	747.5	45.4	7.4	.....	WSW	6	2.7	.....	.....	8	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.26	743.2	29.48	748.8	47.3	8.5	.....	S	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.44	747.8	29.50	749.3	50	10.0	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia (Observatory)	29.37	746.0	29.40	746 7	44.1	6.7	.....	WSW	10	4.5	.....	.....	10	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.17	666.3	30.21	767.3	73	22.8	49	S	7	3.1	.....	0	1ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.50	647.7	.....	.....	84	28.9	.....	SW	.....	.....	.....	0	1c	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.80	680.7	.....	.....	61	16.1	.....	SW	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.03	762.7	68.0	20.0	78	SE	.....	.....	2	.....	3n	.....	.....	0	0	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.53	750.0	41.9	5.5	.....	W	.....	.....	2	.....	7k	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.03	762.7	80.1	26.7	66	SE	21 5	7.6	.....	1	4	.....	E	0.01	0.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.96	761.0	30.05	763.3	69.0	20.6	83	S	10	4.5	.....	.....	1	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.18	741.1	44	6.7	.....	SSE	.....	.....	8	10	5	SSW	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	29.42	747.3	.....	.....	.....	S	.....	.....	6	4	8	S	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.																Sea or swell. Height scale 0 9	Sea or swell. Direction from		
City of Agra, S. 42° 59', W. 30° 10'	.....	.....	29.84‡	757.9‡	53.8	12.1	.....	SSW	.....	.....	6	.....	10	.....	.....	Smooth	.....	Overcast	Capt. Thos. Young.
City of Cashmere, S. 22° 22', W. 36° 02'	.....	.....	30.09‡	764.3‡	79.8	26.6	.....	NNE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 33° 40', W. 56° 55'	.....	.....	30.12	765.0	63	17.2	.....	NNE	.....	.....	6	.....	10	.....	.....	6	W	Raining	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	30.13‡	765.3‡	65	18.3	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast	Capt. O. D. Coxwell
S. S. Richmond, N. 24° 02', W. 75° 38'	.....	.....	30.21	767.3	75	23.9	.....	ENE	.....	.....	2	.....	1	.....	.....	2	NE	Blue sky	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 23° 20', E. 62° 48'	.....	.....	30.10‡	764.6‡	77	25.0	.....	SE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P. Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.24	666.5	29.96	761.0	62.6	17.0	84	SE			1		4d		NE	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.67	753.5	29.71	754.7	35.2	1.8	85	SSE			2		9						
Faröe	29.55	750.6	29.57	751.1	35.8	2.1	93	SSE			4		10						
Godthaab (Greenland)	29.18	741.1	29.22	742.2	— 7.2	—21.8	100	N			4		10					Snowing	
Stykkisholm (Iceland)	29.05	737.9	29.10	739.0	29.8	— 1.2	96	E			6		8						
Thorshavn (Faröe)	29.13	740.0	29.17	740.9	43.9	6.6	90	ESE			6		5						
Vestervig	29.50	749.3	29.61	752.1	33.6	0.9	94	ESE			6		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.95	735.2	29.50	749.2	43.7	6.5	79	NE			1		8		N.	0.142	3.6	Very cloudy	Collignon, Director.
Amiens, Normal School	29.43	747.6	29.54	750.4	48.6	9.2	95	S			1		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.29	744.0	29.55	750.6	46.4	8.0	77	S			2	c	n		WSW	0	0		Klein, Commandant.
Avignon, Normal School	29.53	750.0	29.61	752.0	55.9	13.3	76	SE			4		8		SE	0.059	1.5	Very cloudy	Giraud, Director.
Bar-sur-Seine	28.97	735.8	29.52	749.9	45.1	7.3	81	S			1		10n		SW	0.248	6.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.25	743.0	29.62	749.8	43.3	6.3	81	S			1		8		SW	0	0	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	28.82	732.0	29.72	754.9	42.4	5.8	88	S			1		5		S	0	0	Cloudy	A. Carré, Director.
Bordeaux	29.08	738.6	29.28	743.6	57.2	14.0	69	S			1		2			0.051	1.30	Slightly cl'dy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.12	739.6	29.62	752.4	43.5	6.4	85	S			1		10n		S	0.047	1.2	Raining	Marlot, Director.
Bourges, Normal School	28.92	734.6	29.48	748.8	45.0	7.2	85	ENE			1		10n		ENE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.04	737.7	29.29	743.9	48.9	9.4	84	E			1		10		E	0.059	1.50		Ch. de Rermaree, Dir
Caen, Normal School	29.30	744.3	29.38	746.3	48.6	9.2	66	SE			1		5		S	0	0	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.00	736.6	29.41	746.9	55.4	13	74	E			3		10	W	E	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.26	743.1	29.58	751.3	47.7	8.7	78	SE			1		5			0	0	Cloudy	Jadot, Director
Chartres, Normal School	28.83	732.2	29.47	748.6	42.3	5.7	77	E			1		9	W	S	0.12	3.		E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.07	712.9	29.40	746.7	53.2	11.8	74	SE			2		10		S	0	0		Alluard, Director.
Commercy, Normal School	28.78	731.0	29.65	753.2	38.8	3.8	97	SE			1		5	SE	SE	0.307	7.8	Light fog	Dr. Coullet, Director
Commune de Gréasque*	28.58	726.0	29.72	755.0	48.2	9.0	89	NE			2		10		SE	0.220	5.6		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	28.84	732.4	29.61	752.2	41.0	5	78	ENE			2		10cn		NE	0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.10	739.2	29.32	744.7	45.9	7.7	86	ESE			1		10			0.063	1.6	Covered	Mouillot, Director.
Le Mans, Normal School	29.11	739.5	29.43	747.5	42.1	5.6	85	SE			2		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.74	729.9	29.66	753.4	43.3	6.3	94	S			1		10n		S	0.67	17.	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.17	740.9	29.28	743.7	48.9	9.4	94	E			7		10		SE	0.020	0.5	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	28.93	734.8	29.56	750.8	42.8	6.0	94	ENE			1		10		S	0.031	0.8	Rainy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.37	746.1	29.64	752.9	55.4	13.0	80	SE			4		10		SE	0.150	3.8	Rainy	E. Stephan, Director.
Mirecourt, Normal School	28.53	724.7	29.58	751.3	47.1	8.4	89	WSW			1		5			0.12	3.	Fair	Barbier, Director.
Mont-Louis	24.31	617.4	29.62	752.4	43.9	6.6	51	S			3		7		W	0.394	10.0		M. Cave, for Dr. Fines.
Nice	29.80	757.0	29.84	757.9	60.4	10.2	93	NE			4		10	E	NE	0.161	4.1	Light rain	Capt. Boissière, Director.
Nismes, Normal School	29.40	746.7	29.60	751.9	55.4	13	88	S			3		5		S	0	0	Cloudy	M. Boyer, Director.
Perpignan	29.34	745.1	29.44	747.8	60.2	10.1	81	E	7.4	3.3			9		NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	21.94	557.2			32.0	0.0							10		S	0.130	3.3	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	28.63	727.2	29.74	755.4	48.6	9.2	89	S			6		10	S	S			Raining	M. Tallieu
Puy de Dome (Summit) Obs	24.60	624.7			37.9	3.3	97	SSW			4		8		SSW	0.020	0.5	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	29.28	743.8	29.32	744.9	53.1	11.7	88	ESE			2		2	ESE	ESE	0.04	1.	¾ covered	Lt E. Decante, Director
Rouen, Normal School	29.41	747.1	29.50	749.3	48.2	9.0	52	S			1		8		S	0.047	1.2	Very cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.32	744.6	29.35	745.4	46.8	8.2	70	ESE			4		5	SE	SE	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.33	744.9	29.49	749.1	46.2	7.9	77	ENE			1				SW	0.055	1.4		E. Renou, Director.
Tarbes, Normal School	28.45	722.5	29.47	748.5	70.7	21.5	38	SW			1					0.000	0.003		T. Huguet, Director
Toulouse, Observatory	28.71	729.2	29.42	747.2	66.1	13.4	90	SE			3		10			0	0	Covered	B. Bailland, Dir.
Tours	29.20	741.8	29.40	746.8	41.4	5.2	91	ENE			2		10	W	SW	0.028	0.7	Covered	M. de Tastes.
Versailles, Observatory	29.00	736.5	29.49	749.0	44.6	7.0	74	SE			2		9			0.161	4.10	Almost cov'd	Dr. A. Bertigny, Director
Villefranche-sur-Saone, N.S	28.88	733.6	29.60	751.8	46.0	7.8	91	SE			1		10		SW	0.110	2.8	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.07	763.6	30.09	764.3	73.4	23										0.79	20.		L'Abbé Marchési
Paris, Montsouris Obs'y	29.22	742.1			46.0	7.8	75	E			1		10		SW	0	0		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.33	770.4	30.35	771.0	34.2	1.2	81	NNE	0.2	0.1			10			0	0	Covered	Marc Dechevrens. J S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032.97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.88	733.4	29.73	755.1	34.2	1.2	73	S			6		4k	SW		0.004	0.1	Snowing	Prof. Dr. Hoh.
Berlin	29.56	750.8	29.74	755.3	35.6	2.0	68	E			2		8			0	0		Prof. Dr. Arndt.
Breslau	29.31	744.4	29.84	757.8	31.5	— 0.3	87	WSW			1		4			0	0		Royal University Obs'y
Carlsruhe	29.21	741.8	29.63	752.6	48.2	9.0	72	ENE			0		9	SW		0.130	3.3		Albert Senz.
Cassel	29.08	738.6	29.68	753.9	41.7	5.4	79	S			1		5	S		0.028	0.70		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.36	745.8	29.74	755.8	41.7	5.4	76	ENE			0		8			0.043	1.1		Physical Society.
Friedrichshafen	28.24	717.2	29.72	754.9	32.4	0.2	59	WSW			4		9	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.58	751.2	29.65	753.0	37.2	2.9	86	SE			2		9			0	0		Dr. Reinhold Kleeman.
Kiel	29.57	751.1	29.59	751.5	36.9	2.7	80	SE			2		4			0.004	0.11		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.4	29.86	758.5	32.2	0.1	76	SE			4		1			0	0		Prof. E. Luther.
Köslin			30.24	768.2	36.5	2.5		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.32	744.8	29.76	755.8	37.4	3.0	74	SSE			2		2			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.48	748.9	29.71	754.6	38.1	3.4	82	S			3		0			0	0		Dr. Assmann.
Memel	29.85	758.2	29.90	759.4	30.4	— 0.9	78	E			3	4c							Reinbrecht & Issermann
Munich (München)	27.88	708.1	29.72	754.9	33.8	1.0	67	NE			3		2			0	0		Dr. C. Lang.
Neufahrwasser	29.83	757.7	29.85	758.1	30.6	— 0.8	81	S			2		8			0	0		A. Lothes.
Neustadt (Palatinate)	29.11	739.4	29.63	752.6	45.0	7.2	85	SSE			1		6			0.043	1.1		Reallehrer Dicknether
Posen	29.53	750.1	29.84	757.8	30.2	— 1.0	71	S			2		7			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.11	739.5	29.67	753.6	45.3	7.4	87	Calm			0		10	WSW		0.083	2.10	Raining	Imp. University Observatory.
Stuttgart	28.71	729.3	29.65	753.2	48.7	9.3	57	E			1		4	W		0.059	1.5		Prof. Dr. Schoder.
Thorn	29.70	754.4	29.89	759.1	29.3	— 1.5	80	NE			2		8			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.21	716.4	29.76	756.0	36.0	2.2	62	SE	3.1	1.4		3c		W		0	0		Reallehrer J. Hopfner
Wustrow	29.69	754 0	29.71	754.6	34.5	1.4	96	SE			2		3s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.97	761.1	53.6	12.0		W			2.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.0	30.01	762.3	72.1	22.3	14	NW	6	2.7			6	NW		0	0	D. clouds	
Deesa	29.47	748.5	29.95	760.8	71.4	21.9	11	NW	7.4	3.3			0			0	0	Blue sky	
Bombay	29.87	758.7	29.91	759.7	72.9	22.7	44	NNW	25	11.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.00	711.3	29.87	758.7	75.5	24.2	15	NW	17	7.6			0			0	0	Blue sky	
Belgaum	27.34	694.2	29.88	759.0	74.3	23.5	46	SW	7	3.1			0			0	0	Blue sky	
Lahore	29.13	739.8	29 90	759.6	57.6	14.2	68	Calm	2.4	1.1			0			0	0	Blue sky	
Roorkee	28.95	735.4	29.90	759.5	53.8	12.1	87	E	5.0	2.2			10			0.53	13.5	Hailing	
Agra	29.30	744.3	29.89	759.1	66.3	19.1	79	Calm	4.9	2.2			8		S	0	0		
Nagpur	28.78	730.9	29.81	757.2	84.6	29.2	29	SSE	4.9	2.2			8		SW	0	0	D. clouds	
Jubbulpore	28.46	722.8	29.82	757.5	79.3	26.3	40	N	5.6	2.5			8		N	0	0	Overcast	
Lucknow	29.50	749.4	29.90	759.3	66.0	18.3	84	ESE	1.8	0.8			0			0	0	Blue sky	
Allahabad	29.58	751.4	29.91	759.6	62.2	16.8	93	ENE	3.5	1.6			10		E	0.31	7.9	Drizzling	
Patna	29.77	756.0	29.96	760.9	63.8	17.7	81	N	0.7	0.3			10	N	N	0.36	9.1	Thunder-storm	
Hazaribagh	27.85	707.3	29.89	759.3	69.8	21.0	68	E	8 1	3.6			8					Showery	
Cuttack	29.85	758.2	29.93	760.3	80.7	27.1	59	SSE	4.9	2.2			2			0	0	D. clouds	
Calcutta (Alipore)	29.90	759.4	29.92	760 0	74.2	23.4	63	ESE	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.50	749.3	29.90	759.4	71.8	22.1	57	N	2.0	0.9			0			0.04	1.0	Blue sky	
Chittagong	29.82	757.4	29.91	759.7	76.0	24.4	59	Calm	1.9	0.8			0			0	0	Misty	
Sibsagar	29.63	752.6	29.98	761.4	66.3	19.1	79	ENE	2.1	0.9			8	SW	SW	0	0	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,261 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.50	749.4	29.93	760.2	42.8	6.0	50	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.5	29.93	760 1	36.0	2.2	91	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.82	757.4	29.93	760.3	38.3	3.5	86	N	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.97	736.8	29.91	759.7	39.4	4.1	69	ENE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.07	753.6	29.87	758.6	47.3	8.5	94	NE	3.1	1.4	.....	.....	10	SE	.....	0.150	3.8	.....	Prof. G. M. Garibaldi.
Mondovi	27.93	709.5	29.91	759.7	41.7	5.4	42	NNE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.84	757.8	29.89	759.1	50.0	10.0	67	NE	3.8	1.7	.....	.....	9	WNW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.66	753 3	29.92	760.0	48.2	9.0	76	NW	.....	.....	2	.....	10	SW	.....	0.012	0.3	.....	Cav. F. Meucci.
Leghorn	29.81	757.2	29.90	759.5	54.9	12.7	77	SSE	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.78	756.3	29.96	760.9	55.6	13.1	63	S	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.70	754.4	29.97	761.1	55.4	13.0	64	N	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.09	738.9	30.00	762.1	55.4	13.0	71	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.69	754.0	29.89	759.1	57.7	14.3	79	SE	.....	.....	2	.....	5	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.78	755.2	29.99	761.7	56.5	13.6	56	ENE	4.9	2.2	.....	.....	5	NNW	.....	0	0	.....	Prof. G. Ciaccatore.
Syracuse	29.95	760.8	30.00	761.9	55.6	13.1	82	SW	4.9	2.2	.....	.....	3	NW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.6	30.00	761.9	54.5	12.5	60	SW	3.1	1.4	.....	.....	7	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.11	764.8	30.13	765.3	44.4	6.9	76	NNE	6.3	2.8	.....	ck	3s	.....	.....	0	0	Dull	K. Sasaki.
Nagasaki, I. M. Obs'y	29.97	761.2	30.19	766.8	42.0	5.6	86	NNW	1.9	0.7	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.99	761.7	30.06	763.5	40.1	4.5	93	ENE	3.3	1.5	.....	1ck;cs	0	.....	.....	0.055	1.40	Fair.	The Staff.
Wakayama	30.02	762.5	30.07	763.8	44.8	7.1	87	NNE	0.7	0.3	.....	.....	2cs	.....	.....	0	0	Fair.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.18	638.2	30.29	769.4	45.5	7.5	55	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.52	622.7	30.30	769.6	53.1	11.7	83	SW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.80	756.8	30.06	763.5	61.5	16.4	89	NW	.....	.....	1	8cs	0	SW	.....	0	0	Cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.15	587.9	30.32	770.1	45 9	7.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.15	613.3	.....	.....	57.9	14.4	45	E	.....	.....	2	2k	0	S	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascallentes)	24.03	610.4	30.15	765.8	40.9	8.3	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.0	30.41	772.4	43.0	6.1	48	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.26	616.3	30.21	767.4	60.3	15.7	64	SE	.....	.....	1	4	0	W	.....	0	0	Fair	G. Barroeta, M. D.
Tlacotalpam	30.17	766.2	30.18	766.6	68.0	20.0	92	W	.....	.....	1	9	0	E	.....	0	0	Cloudy	Prof. M. M. Chazaro
Vera-Cruz	30.15	765.9	30.18	766.6	68.0	20.0	81	Calm	0	0	.....	.....	4sk	.....	.....	0	0	Fair	Prof. J. Rossell
Zacatecas																			J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.54	750.4	29.54	750.4	43.0	6.1	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	29.46	748.3	29.52	749.7	39.7	4.3	.....	S	.....	.....	2	.....	.....	.....	.....	0.012	0.3	.....	
Helder	29.45	748.0	29.45	748.0	40.8	4.9	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.51	749.5	29.51	749.5	42.4	5.8	83	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.50	749.2	29.54	750.4	42.3	5.7	88	S	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.55	750.5	29.60	751.9	42.8	6.0	56	SSE	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	
Brönno	29.78	756.4	29.82	757.4	35.6	2.0	64	E	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiana	29.67	753.5	29.82	757.4	33.4	0.8	83	NE	4	2	.....	.....	10	.....	.....	0.417	10.6	.....	
Tromsö	29.68	753.9	29.72	755.0	37.2	2.9	61	SW	36	16	.....	.....	7	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.85	758.1	30.07	763.6	53.6	12.0	86	W	.....	.....	5	.....	3	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	28.76	730.6	29.78	756.3	50.0	10.0	84	W	24.8	11.1	.....	.....	10	.....	.....	0.370	9.4	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.22	767.5	30.30	769.7	62.6	17.0	45	SE	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.51	749.6	29.87	758.8	50.5	10.3	77	WNW	23.7	10.6	.....	.....	7	.....	.....	0.902	22.9	.....	The Staff.
Ponta Delgada (Azores)	30.34	770.7	30.41	772.5	59.4	15.2	48	Calm	0	0	.....	.....	4	.....	.....	0.094	2.4	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. . e Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa																			
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	78.4	25.8	.....	NNE	.....	.....	4	.....	2	.....	NNE	3	ENE	D. clouds.....	A.de SouzaRoza, 2ndL't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello.																			
St. Paul de Loando	.....	.....	29.95	760.6	80.4	26.9	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds, 5 minutes rain-fall.	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,																			
Macao, China	.....	.....	30.15	765.8	56.1	13.4	.....	NNW	.....	.....	3	.....	10	.....	NNW	1	N	.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.60	751.8	29.62	752.3	27.0	— 2.8	89	SSW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Capt. Sselliwerstow.
Astrakhan	30.39	771.9	30.31	769.8	23.9	— 4.5	65	ESE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.93	760.1	30.50	774.7	— 8.1	—22.3	75	SW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.75	755.7	30.00	762.1	32.4	0.2	87	ESE	4	2	.....	.....	9kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.11	739.3	30.16	766.1	7.3	—13.7	65	W	4	2	.....	c	10cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.77	756.1	30.05	763.3	21.4	— 5.9	64	SW	9	4	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	29.98	761.6	30.00	762.1	28.4	— 2.0	82	E	2	1	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.41	747.1	30.10	764.4	21.4	— 5.9	42	ESE	4	2	.....	.....	1cks	.....	.....	.....	.....	Hazy.....	Physical Cabinet.
Krotkowo*	29.72	755.0	30.23	767.7	27.7	— 2.4	41	W	0	0	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.01	762.2	30.23	767.9	15.4	— 9.2	56	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.62	752.3	30.20	767.0	27.3	— 2.6	42	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.16	715.2	30.81	782.5	—11.0	—23.9	83	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.98	761.5	30.05	763.3	23.9	— 4.5	65	E	9	4	.....	.....	10cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	30.09	764.2	30.33	770.4	30.6	— 0.8	58	SSW	7	3	.....	.....	9kn	.....	.....	.....	.....	.....	.....
Oenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.26	768.6	30.40	772.2	24.8	— 4.0	82	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.95	760.7	29.97	761.1	32.9	0.5	89	SW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.80	731.6	30.53	775.4	17.6	— 8.0	83	NW	9	4	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.73	729.7	30.20	767.1	39.6	4.2	56	Calm	0	0	.....	.....	9cs	.....	.....	.....	.....	Light clouds	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.45	747.9	29.89	759.2	26.8	— 2.9	78	SE	7	3	.....	2c	.....	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.57	751.1	30.02	762.4	24.3	— 4.3	71	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.04	763.1	30.37	771.4	— 8.5	—22.5	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.50	749.3	29.61	752.4	61.2	16.2	62	WSW	7.2	3.23	.....	.....	8	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.34	745.2	29.39	746.6	61.2	16.2	46	S	7.2	3.20	.....	3	4	W	.....	0.114	2.9	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.51	673.4	.....	.....	45.5	7.5	71	SW	14.2	6.36	.....	0	8	.....	.....	0.965	24.5	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.33	694.1	29.56	750.7	50.4	10.2	85	SW	41.8	18.67	.....	0	8	.....	.....	0.496	12.6	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.47	748.4	29.61	752 2	64.6	18.1	71	NE	4.6	2.08	.....	4	5	J.	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.64	727.6	29.54	750.4	48.4	9.1	76	WNW	16.8	7.5	.....	.....	10	.....	.....	1.732	44.0	Rainy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.12	764.9	30.18	766.6	69.4	20.8	90	Calm	0	0	.....	0	1sk	.....	.....	0.083	2.1	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.90	759.4	29.95	760.6	81.3	27.4	78	E	.....	.....	.....	.....	1s	.....	E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	758.0	29.94	760.5	59.2	15.1	69	W	29.3	13.1	.....	0	9	.....	W	0.073	1.9	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.04	763.0	30.13	765.3	75.9	24.4	81	SE	9.6	4.30	.....	8cs	0	SE	.....	0.010	0.25	Clear	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.97	761.1	30.00	762.1	17.6	— 8.0	.....	Calm	.....	.....	0	.....	0	.....	.....	0.433	11.0	.....	
Umea	29.92	760.0	29.97	761.3	28.4	— 4.8	90	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Hernosand	29.97	761.1	30.02	762.4	28.8	— 1.8	80	N	.....	.....	2	.....	2	.....	.....	0.232	5.9	.....	
Stockholm	29.75	755.7	29.93	760.2	36.3	2.4	82	SE	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	
Wisby	29.75	755.6	29.81	757.1	36.0	2.2	89	SSE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.77	756.2	29.86	758.4	35.1	1.7	93	E	2.0	0.9	.....	.....	10	.....	ESE	0.014	0.35	Light fog.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 9° 56', W. 78° 57'	.....	.....	29.94‡	760.5‡	79.2	26.2	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.26	717.7	29.75	755.6	33.3	0.7	100	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	The Observatory.
Zurich	28.04	712.2	29.73	755.1	38.5	3.6	73	NW	.....	.....	1	.....	9	.....	.....	0.236	6.0	Raining.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —8.9 mm.; Thermometer, —2.3 Cent. Relative Humidity, +27 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.1	45.0	7.2	66	N	9	4.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.96	760.9	58.6	14.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.86	758.4	56.3	13.5	84	NW	.....	.....	1	.....	9n	.....	SW	0.51	13.0	.....	Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.32	770.1	30.33	770.4	—11	—23.9	.....	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	30.37	771.4	30.45	773.4	—19.6	—28.7	93	Calm	0	0	.....	1c	2ks	.....	.....	0.01	0.3	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	30.36	771.1	30.41	772.4	— 7.4	—21.9	100	NW	10	4.5	.....	0	3s	.....	.....	0.20	5.1	Fair	H. J. Cundall, C. E
Cornwall, Ontario	30.11	764.8	30.33	770.4	— 9.2	—22.9	100	NE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.25	768.3	30.44	773.2	—17.0	—27.2	.....	W	.....	.....	2	0	0	.....	.....	0.35	8.9	Clear.	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	—18.5	—28.1	100	S	9	4.0	.....	5cs	2s	Calm	.....	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.48	772.9	30.50	774.7	—10.0	—23.3	72	NW	3	1.3	.....	0	0	.....	.....	0.09	2.3	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.02	737.1	29.94	760.5	— 4.2	—20.1	100	SW	4	1.8	.....	Haze	.....	.....	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	28.84	732.5	30.02	762.5	17.0	— 8.3	100	S	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	James Grant.
Halifax, N. S	30.32	770.1	30.46	773.7	— 3.0	—19.4	86	N	7	3.1	.....	0	0	.....	.....	0.030	0.76	Clear.	A. Allison.
Hamilton, Ontario	29.74	755.4	30.14	765.5	14.5	— 9.7	84	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.92	760.0	30.30	769.6	3.5	—15.8	87	SE	3	1.3	.....	10cs	0	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.36	769.6	30.34	770.6	— 1.0	—18.3	100	NW	8	3.6	.....	5k	0	NW	.....	0.40	10.2	Fair...	C. H. Rigby.
Montreal, Quebec	30.18	766.6	30.41	772.4	— 7.1	—21.7	92	SE	10	4.5	.....	10s	.....	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.70	755.9	29.79	756.7	4.9	—15.1	93	SW	.....	.....	2	.....	10n	.....	.....	0.05	1.3	Cloudy.....	J. R. Nr son.
Norwood, Ontario	29.41	747.0	30.19	766.8	3.8	—15.8	100	NE	7	3.1	.....	.....	10s	.....	.....	0.20	5.1	Snowing.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.33	745.0	30.09	764.3	6.3	—14.3	88	SE	22	9.8	.....	.....	10n	.....	.....	.....	.....	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	29.36	745.7	30.19	766.8	7.8	—13.4	61	NE	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.34	745.2	30.07	763.8	26.0	— 3.3	88	SW	12	5.4	.....	.....	10n	.....	.....	0	0	Threatening	H. Morgan.
Port Stanley, Ontario	29.36	745.7	30.04	763.0	26.2	— 3.2	77	SE	20	8.9	.....	.....	10n	.....	.....	.....	.....	Light snow.	M. Payne.
Quebec, Quebec	30.12	765.0	30.50	774.7	—21.0	—29.4	62	W	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.72	754.9	30.23	767.8	— 0.8	—18.2	72	E	8	3.6	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	W. H. McIntyre.
St. John, N. B	30.28	769.1	30.47	773.9	- 7	—21.7	100	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
Saugeen, Ontario	29.24	742.7	30.00	762.0	15.9	— 8.9	91	S	14	6.3	.....	.....	10s	.....	.....	0	0	Cloudy..	Mrs. K. Stewart.
Stratford, Ontario	28.63	727.2	30.02	762.5	13.6	—10.2	94	SE	10	4.5	.....	.....	10s	.....	.....	Inap.	Inap.	Snowing.. ..	C. J. MacGregor, M. A.
Sydney, C. B	30.28	769.1	30.32	770.1	— 1.3	—18.5	94	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.69	754.1	30.10	764.5	18.1	— 7.7	80	SE	6	2.7	.....	.....	10ks	.....	.....	0.010	0.25	Light snow.	Magnetic Observatory
Windsor, N. S	30.02	762.5	30.13	765.3	— 2.0	—18.9	100	NW	3	1.3	.....	.....	8ks	.....	.....	0	0	Fair.....	Prof. John E. Oram, M.A
Woodstock, Ontario	28.86	733.8	30.04	763.0	14.1	— 9.9	93	E	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	Professor Wolverton.
Yarmouth, N. S	30.40	772.1	30.48	774.2	7.3	—13.7	62	NE	5	2.2	.....	2k	0	E	.....	0.03	0.8	Light snow.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.71	754.6	29.99	761.7	— 4	—20.0	100	NW	.....	.....	.....	0	5ks	.....	.....	Blank	Blank	Snow-drift..	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.96	761.0	— 1.5	—18.6	.....	NW	.....	.....	6	.....	.....	.....	.....	0	0	.....	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.23	767.8	30.50	774.7	— 7	—21.7	81	Calm	0	0		Haze	2s		Calm	0	0	Fair	
Alpena, Michigan	29.26	743.2	29.94	760.5	20	— 6.7	85	SW	12	5.4			10s		Calm	0	0	Cloudy	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	29.10	739.1	30.26	768.6	50	10.0	58	SW	7	3.1			10s		SW	0	0	Cloudy	
Atlantic City, New Jersey	30.44	773.2	30.46	773.7	19	— 7.2	69	N	4	1.8		2k	0	NW		0	0	Clear	
Augusta, Georgia	30.15	765.8	30.35	770.9	43	6.1	83	Calm	0	0			10s		Calm	0	0	Cloudy	
Baltimore, Maryland	30.42	772.7	30.48	774.2	20	— 6.7	85	NE	5	2.2			10s		S	0	0	Cloudy	
Barnegat, New Jersey	30.43	772.9	30.45	773.4	26	— 3.3	75	SE	8	3.6		5ck	2s	W	W	0	0	Fair	
Bismarck, Dakota	28.02	711.7	29.88	758.9	0	—12.8	78	E	2	0.9		0	0			0	0	Clear	
Boerne, Texas	28.70	729.0	30.03	762.7	54	12.2	100	SE	1	0.4			Fog		Calm	0	0	Dense fog	
Boise City, Idaho	26.96	684.8	29.92	760.0	34	1.1	74	W	4	1.8			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	30.35	770.9	30.53	775.4	0	—17.8	39	N	5	2.2		0	1s		Calm	0	0	Clear	
Brackettville, Texas	28.99	736.3	30.06	763.5	53	11.7	93	E	4	1.8			Haze		Calm	0	0	Hazy	
Breckenridge, Minnesota	28.88	733.5	29.99	761.7	— 3	—19.4	100	S	8	3.6		0	0			0	0	Clear	
Brownsville, Texas	30.14	765.5	30.19	766.8	55	12.8	93	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Buffalo, New York	29.34	745.2	30.09	764.3	14	—10.0	46	SE	2	0.9			9s;sme		sW;Calm	0	0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	30.09	764.3	30.42	772.7	— 1	—18.3	68	S	5	2.2			10s		S	0	0	Cloudy	
Cairo, Illinois	29.78	756.4	30.18	766.6	46	7.8	62	SW	7	3.1		2c	2s	W	Calm		0	Fair	
Campo, California	27.33	694.2	29.90	759.4	44	6.7	52	W	12	5.4			10s		Calm		0	Cloudy	
Cape Hatteras, N. Carolina	30.33	770.4	30.34	770.6	51	10.6	86	E	15	6.7		0	8s		E	0	0	Cloudy	
Cape Henry, Virginia	30.36	771.1	30.38	771.6	42	5.6	74	NE	16	7.2		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.31	769.9	30.33	770.4	47	8.3	100	NE	8	3.6		5cs	0	N		0	0	F ir	
Cape May, New Jersey	30.42	772.7	30.46	773.7	16	— 8.9	49	N	7	3.1		2ck	0	S		0	0	Clear	
Castroville, Texas	29.39	746.5	30.10	764.5	54	12.2	100	Calm	0	0			Fog			0.01	0.3	Foggy	
Cedar Keys, Florida	30.26	768.6	30.29	769.4	52	11.1	79	NE	7	3.1		0	1s		Calm	0	0	Clear	
Charleston, South Carolina	30.24	768.1	30.30	769.6	46	7.8	77	N	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.45	748.0	30.31	769.9	34	1.1	79	N	5	2.2		10cs	Sm'e	NW	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.43	747.5	30.26	768.6	40	4.4	82	Calm	0	0		10ck	Sm'e	SW	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	18	— 7.8	53	NW	8	3.6		0	0			0	0	Clear	
Chicago, Illinois	29.22	742.2	29.93	760.2	35	1.7	71	SW	4	1.8		0	0			0	0	Clear	
Cincinnati, Ohio	29.44	747.8	30.12	765.0	37	2.8	71	SE	3	1.3		0	8ks		SW	0	0	Fair	
Cleveland, Ohio	29.24	742.7	30.00	762.0	29	— 1.7	78	SE	17	7.6			10s		SW	0	0	Cloudy	
Coleman City, Texas	28.36	720.3	30.06	763.5	50	10.0	72	W			1	0	0			0	0	Clear	
Columbus, Ohio	29.22	742.2	30.10	764.5	27	— 2.8	76	SE	8	3.6		5k	Fog	SW	Calm	0	0	Fair	
Concho, Texas	28.22	716.8	29.91	759.7	52	11.1	86	SW			1		10s		Calm	0	0	Cloudy	
Corsicana, Texas	29.74	755.4	30.21	767.3	58	14.4	70	S	8	3.6			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.36	745.7	30.02	762.5	30	— 1.1	78	W	4	1.8		0	0			0	0	Clear	
Dayton, Washington T'y					31	— 0.6	68	E			1	Haze	2s	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.24	641.1			25	— 3.9	50	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas																			
Denison, Texas	29.36	745.7	30.17	766.3	50	10.0	93	SW	7				Fog			0	0	Foggy	
Denver, Colorado	24.75	628.6	29.97	761.2	23	— 5.0	60	S	5	2.2		0	0			0	0	Clear	
Des Moines, Iowa	29.17	740.9	30.10	764.5	28	— 2.2	77	Calm	0	0		0	0			0	0	Clear	
Detroit, Michigan	29.27	743.4	29.97	761.2	26	— 3.3	88	S	7	3.1		0	8s		SW	0	0	Fair	
Dodge City, Kansas	27.49	698.2	29.90	759.4	26	— 3.3	28	NE	1	0.4		0	0			0	0	Clear	
Dubuque, Iowa	29.31	744.5	30.05	763.3	25	— 3.9	62	W	5	2.2		0	Fog		Calm	0	0	Clear	
Duluth, Minnesota	29.20	741.7	29.94	760.5	5	—15.0	75	SW	6	2.7		0	0			0	0	Clear	
Eagle Pass, Texas	29.35	745.5	30.09	764.3	55	12.8	93	SE	4	1.8			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.43	772.9	30.51	774.9	— 4	—20.0	65	N	12	5.4		0	2s		N	0	0	Clear	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.27	743.4	30.02	762.5	24	— 4.4	74	SE	24	10.7			10s		SW	0	0	Cloudy	
Escanaba, Michigan	29.21	741.9	29.89	759.2	21	— 6.1	71	NW	5	2.2			10s		NW	0	0	Cloudy	
Florence, Arizona	28.41	721.6	30.01	762.2	47	8.3	85	E	3	1.3			10ks		S	0	0	Threatening	
Fort Apache, New Mexico					27	— 2.8	77	E	1	0.4		2cs	0	Calm		0	0	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.72	704.1	29.65	753.1	16	— 8.9	83	SW	2	0.9		0	0			0	0	Clear	
Fort Custer, Montana	26.60	675.6			25	— 3.9	74	SE	6	2.7		0	0			0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	40	4.4	73	Calm	0	0		5k	0	W		0	0	Fair	
Fort Gibson, Indian Ter	29.60	751.8	30.15	765.8	43	6.1	75	SE	4	1.8		0	0			0	0	Clear	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	46	7.8	41	S	6	2.7			10s		Calm	0	0	Cloudy	
Fort Griffin, Texas	28.86	733.0	30.16	766.1	47	8.3	92	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.06	687.3			11	—11.7	61	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.86	707.6	29.80	756.9	51	10.6	93	W	3	1.3			10s		W	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.87	733.3	30.02	762.5	39	3.9	91	S	6	2.7			Fog		Calm	0	0	Foggy	
Fort Stevenson, Dakota	27.97	710.4			1	—17.2	85	Calm	0	0		0	0			0	0	Clear	
Fort Verde, Arizona					34	1.1	90	NW			1		10s		NW	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.34	719.8	29.90	759.4	57	13.9	69	S	2	0.9			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.18	766.6	30.22	767.6	56	13.3	94	E	4	1.8			Fog		Calm	0.05	1.3	Foggy	
Graham, Texas	29.04	737.6	30.13	765.3	45	7.2	91	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.23	742.4	29.90	759.4	35	1.7	70	SW	15	6.7		10k	0	SW		0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.18	741.1	30.15	765.8	44	6.7	84	SW	6	2.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.22	742.2	30.03	762.7	34	1.1	70		4	1.8		0	0			0	0	Clear	
Indianola, Texas	30.19	766 8	30.22	767.6	54	12.2	100	E	5	2·2			Fog		Calm	0.01	0.3	Foggy	
Jacksboro, Texas	28.94	735.1	30.09	764.3	50	10.0	86	SW	6	2.7		0	0			0	0	Clear	
Jacksonville, Florida	30.28	769.1	30.30	769.6	50	10.0	65	N	5	2.2		5cs;ck	0	W		0	0	Fair	
Keokuk, Iowa	29.29	746 5	30.03	762.7	34	1.1	70	W	1	0.4		0	0			0	0	Clear	
Key West, Florida	30.17	766.3	30.20	767.1	72	22.2	85	NE	10	4.5		2k	0	NE		0.04	1.0	Fair	
Kittyhawk, North Carolina	30.35	770.9	30.37	771.4	47	8.3	85	SE	8	3.6		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.24	742.7	30.30	769.6	34	1.1	79	E	2	0.9			10ks		W	0	0	Cloudy	
La Crosse, Wisconsin	29.22	742.2	29.99	761.7	22	— 5.6	58	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	32	0.0	59	Calm	0	0		0	1s		Calm	0	0	Clear	
Laredo, Texas	29.73	755.1	30.08	764.0	50	10.0	86	S	1	0.4			10s		S	0	0	Cloudy	
Leavenworth, Kansas	29.23	742.4	30 11	764.8	32	0.0	79	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Lewiston, Idaho					33	0.6	79	E	1	0.4		5ck	5s	Calm	Calm	0	0	Cloudy	
Little Rock, Arkansas	29.87	758.7	30.24	768.1	45	7.2	76	SW	1	0.4		0	0			0	0	Clear	
Los Angeles, California	29.60	751.8	29.94	760.5	47.5	8.6	67	E	23	10.3		0	8s		E	Inap	Inap.	Cloudy	
Louisville, Kentucky	29.51	749.5	30.09	764.3	40	4.4	65	S	4	1.8		2c	2s;sm	Calm	[illegible]	0	0	Fair	
Lynchburg, Virginia	29.69	754.1	30.42	772.7	32	0.0	89	N	3	1.3			10n		Calm	Inap.	Inap.	Light rain	
Madison, Wisconsin	28.91	734.3	29.93	760.2	27	— 2.8	76	W	9	4.0		0	0			0	0	Clear	
Marquette, Michigan	29.16	740.7	29.90	759.4	18	— 7.8	68	W	7	3.1		0	0			0.01	0.3	Clear	
Mason, Texas	28.50	723.9	30.27	768.8	56	13.3	94	SE	3	1.3			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.87	758.7	30.22	767.6	48	8.9	62	S	9	4.0		2c	Sm'e		Calm	0	0	Smoky	

UNITED STATES SERIES -CONTINUED.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	BAROMETER. Corrected for instru-m'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	29.15	740.4	29.91	759.7	26	— 3.3	88	W	9	4.0	....	0	Haze	....	....	0	0	Clear.	
Mobile, Alabama	30.26	768.6	30.31	769.9	51	10.6	93	SW	3	1.3	....	0	Fog	....	....	0	0	Clear	
Montgomery, Alabama	30.06	763.5	30.30	769.6	51	10.6	82	SE	3	1.3	....	5k	0	W	....	0	0	Fair	
Morgantown, West Virginia	29.17	740.9	30.24	768.1	21	— 6.1	71	Calm	0	0	....	2ck	0	NW	....	0	0	Fair	
Mt. Washington, N. H.	23.62	599.9	29.98	761.5	— 3	—19.4	66	W	27	12.1	....	10k	0	Calm	....	0	0	Cloudy	
Nashville, Tennessee	29.64	752.8	30.20	767.1	35	1.7	80	Calm	0	0	....	1cs	0	Calm	....	0	0	Clear.	
New Haven, Connecticut	30.39	771.9	30.53	775.4	4	—15.6	74	NE	7	3.1	....	0	5s	....	Calm	0	0	Fair	
New London, Connecticut	30.46	773.7	30.52	775.2	9	—12.8	57	N	4	1.8	....	1cs	0	W	....	0	0	Clear.	
New Orleans, Louisiana	30.23	767.8	30.29	769.4	54	12.2	86	E	5	2.2	....	0	Haze	....	Calm	0	0	Clear.	
Newport, Rhode Island	30.45	773.4	30.51	774.9	9.5	—12.5	68	N	6	2.7	....	2c	0	Calm	....	0	0	Clear.	
New River, North Carolina	....	....	....	....	41	5.0	100	NE	....	....	1	0	Fog	....	Calm	....	....	Foggy	
New York, New York	30.31	769.9	30.51	774.9	13	—10.6	81	NE	10	4.5	....	5ck	Haze	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.32	770.1	30.38	771.6	38	3.3	72	NE	4	1.8	....	....	10s	....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.10	688.3	29.83	757.7	19	— 7.2	69	NW	3	1.3	....	0	0	....	....	0	0	Clear	
Olympia, Washington Ter.	29.61	752.1	29.65	753.1	39.0	3.9	73	SW	10	4.5	....	Haze	5s	....	Calm	0	0	Fair	
Omaha, Nebraska	28.92	734.6	30.08	764.0	26	— 3.3	75	W	1	0.4	....	0	0	....	....	0	0	Clear.	
Oswego, New York	29.91	759.7	30.26	768.6	12	—11.1	80	SE	12	5.4	....	8cs	0	Calm	....	0	0	Fair	
Pembina, Dakota	28.94	735.1	29.85	758.2	3	—16.1	100	Calm	0	0	....	0	0	....	....	Inap.	Inap.	Clear	
Pensacola, Florida	30.30	769.6	30.33	770.4	52	11.1	86	NE	4	1.8	....	0	2s;hz	....	Calm	0	0	Hazy	
Philadelphia, Pennsylvania	30.42	772.7	30.47	773.9	17	— 8.3	67	E	10	4.5	....	5k	0	NW	....	0	0	Fair	
Phœnix, Arizona	28.76	730.5	30.60	777.2	51	10.6	46	E	4	1.8	....	....	10s	....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.61	447.3	29.82	757.4	1	—17.2	42	SW	34	15.2	....	0	2s	....	Calm	0	0	Clear.	
Pilot Point, Texas	29.15	740.4	29.99	761.7	41	5.0	82	S	....	....	....	....	Fog	....	....	0	0	Foggy	
Pioche, Nevada	23.88	606.5	29.66	753.4	34	1.1	52	SE	7	3.1	....	....	10s	....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.35	745.5	30.22	767.6	18	— 7.8	84	E	2	0.9	....	0	Fog	....	Calm	0	0	Foggy	
Port Huron, Michigan	29.27	743.4	29.96	761.0	25	— 3.9	87	S	12	5.4	....	....	10s	....	SW	Inap.	Inap.	Cloudy	
Portland, Maine	30.44	773.2	30.50	774.7	4	—15.6	74	NW	6	2.7	....	0	0	....	....	0.01	0.3	Clear.	
Portland, Oregon	29.71	754.6	29.78	756.4	35	1.7	80	SE	5	2.2	....	....	10s	....	....	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina	....	....	....	....	50	10.0	93	NE	12	5.4	....	5cs	0	Calm	....	0	0	Fair	
Prescott, Arizona	24.64	625.8	30.00	762.0	38	3.3	45	Calm	0	0	....	....	10s	....	Calm	0	0	Threatening	
Punta Rassa, Florida	30.23	767.8	30.24	768.1	63	17.2	83	N	7	3.1	....	....	10s	....	Calm	0	0	Cloudy	
Red Bluff, California	29.56	750.8	29.92	760.0	45	7.2	92	Calm	0	0	....	....	10s	....	S	Inap.	Inap.	Cloudy	
Rio Grande City, Texas	30.00	762.0	30.22	767.6	55	12.8	93	NW	2	0.9	....	....	Fog	....	....	0	0	Foggy	
Rochester, New York	29.50	749.3	30.18	766.6	10	—12.2	70	SE	12	5.4	....	0	9ks	....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.33	745.0	29.92	760.0	29	— 1.7	94	SE	3	1.3	....	....	10s	....	Calm	0	0	Cloudy	
Sacramento, California	29.83	757.7	29.91	759.7	41	5.0	100	W	4	1.8	....	....	Fog	....	....	0.04	1.0	Foggy	
St. Louis, Missouri	29.51	749.5	30.10	764.5	41	5.0	65	W	10	4.5	....	0	0	....	....	0	0	Clear.	
St. Paul, Minnesota	29.10	739.1	30.00	762.0	10	—12.2	61	SW	1	0.4	....	0	0	....	....	0	0	Clear.	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	27	— 2.8	53	SE	4	1.8	....	0	8s	....	Calm	0	0	Cloudy	
San Antonio, Texas	29.53	750.0	30.13	765.3	55	12.8	100	Calm	0	0	....	....	10s	....	Calm	0.04	1.0	Cloudy	
San Diego, California	29.94	760.5	30.01	762.2	49	9.4	93	E	12	5.4	....	....	10n	....	SE	0.28	7.1	Light rain	
Sandusky, Ohio	29.28	743.7	29.96	761.0	37	2.8	71	SW	22	9.8	....	....	10s	....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	30.46	773.7	30.49	774.4	17	— 8.3	83	E	14	6.3	....	5ck	2s	W	W	0	0	Fair	
San Francisco, California	29.85	758.2	29.92	760.0	48	8.9	93	N	4	1.8	....	....	10n	....	Calm	0.32	8.1	Light rain	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	14	—10.0	28	NE	2	0.9	....	0	0	....	....	0	0	Clear.	
Savannah, Georgia	30.25	768.3	30.35	770.9	47	8.3	70	NW	3	1.3	....	8c	0	W	....	0	0	Fair	
Shreveport, Louisiana	30.01	762.2	30.23	767.8	53	11.7	86	S	2	0.9	....	....	10s	....	Calm	0	0	Cloudy	
Silver City, New Mexico	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Smithville, North Carolina	30.30	769.6	30.34	770.6	41	5.0	91	N	7	3.1	....	0	Fog	....	....	0	0	Clear.	
Socorro, New Mexico	25.49	647.4	29.55	750.6	24	— 4.4	61	N	4	1.8	....	....	10s	....	Calm	0	0	Cloudy	
Springfield, Illinois	29.39	746.5	30.08	764.0	39	3.9	64	W	9	4.0	....	0	0	....	....	0	0	Clear.	
Springfield, Massachusetts	30.40	772.1	30.55	776.0	— 1	—18.3	68	N	3	1.3	....	8cs	0	W	....	0	0	Cloudy	
Stockton, Texas	27.03	686.6	30.03	762.7	37	2.8	38	NE	4	1.8	....	0	0	....	....	0	0	Clear	
Thatcher's Island, Mass	30.44	773.2	30.50	774.7	21	— 6.1	86	E	8	3.6	....	....	10s	....	E	0	0	Cloudy	
Toledo, Ohio	29.25	742.9	29.95	760.7	33	0.6	70	SW	12	5.4	....	10k	0	SW	....	0	0	Cloudy	
Tucson, Arizona	27.50	698.5	30.05	763.3	47	8.3	62	S	4	1.8	....	....	10s	....	Calm	0	0	Cloudy	
Umatilla, Oregon	29.39	746.5	29.90	759.4	26	— 3.3	81	SE	8	3.6	....	2cs	0	....	....	0	0	Clear.	
Uvalde, Texas	29.23	742.4	30.06	763.5	54	12.2	93	Calm	0	0	....	....	10s	....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.03	762.7	30.30	769.6	58	11.7	86	SW	5	2.2	....	....	10s	....	SW	0	0	Cloudy	
Virginia City, Montana	24.03	610.4	29.51	749.5	15	— 9.4	48	Calm	0	0	....	0	0	....	....	0	0	Clear	
Visalia, California	29.50	749.3	29.87	758.7	42.5	5.8	83	NE	2	0.9	....	0	5s	....	Calm	0.05	1.3	Fair	
Washington, D. C.	30.33	770.4	30.45	773.4	21	— 6.1	71	NE	6	2.7	....	....	10s	....	W	0	0	Cloudy	
Wickenburg, Arizona	....	....	....	....	41	5.0	74	NW	....	....	1	....	10s	....	SW	0	0	Cloudy	
Wilmington, North Carolina	30.25	768.3	30.34	770.6	41	5.0	82	NE	1	0.4	....	0	0	....	....	0	0	Clear.	
Winnemucca, Nevada	25.43	645.9	29.79	756.7	35	1.7	61	S	3	1.3	....	....	9s	....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.47	773.9	30.51	774.9	13	—10.6	81	NW	10	4.5	....	....	8ks	....	SW	0	0	Cloudy	
Yankton, Dakota	28.71	729.2	30.09	764.3	20	— 6.7	70	W	4	1.8	....	0	0	....	....	0	0	Clear.	
Yuma, Arizona	29.77	756.1	29.92	760.0	51	10.6	40	SW	2	0.9	....	....	10s	....	SW	0	0	Cloudy	
SUB-SERIES.																			
Bogota, U. S. Colombia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Thomas Herran.
Fayetteville, Arkansas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. B. Gordon.
Havana, Cuba, W. I.	30.07	763.8	30.12	765.0	74	23.3	81	Calm	0	0	....	0	0	....	....	0.04	1.0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	....	....	....	....	72	22.2	78	N	2	0.9	....	0	2cs	....	....	....	....	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.5	77	25.0	71	....	....	....	....	....	....	....	....	....	....	....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.03	762.7	79	26.1	82	E	....	....	3	....	8ks	E	....	0.240	6.10	Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.43	747.5	29.98	761.5	81	27.2	72	Calm	....	....	0	....	8s	....	....	0	0	....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Robert Mason.
St. Thomas, W. I.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	G. O. Gellich.
York Factory, B. A.	30.02	762.5	30.07	763.8	—29.0	—33.9	....	SW	16	7.2	....	....	10n	....	SW	0.11	2.8	Snowing	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.23 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.33‡	770.4‡	.....	.....	55	12.8	93	NE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	30.47‡	773.9‡	.....	.....	18	— 7.8	84	NW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.91‡	759.7‡	.....	.....	44.5	6.9	84	NE	.....	.....	1	.....	5k	.....	NW	0.68	17.3	.....	.....	Clearing	
Adams, N. 24° 11′, W. 109° 58′	30.04‡	763.0‡	.....	.....	67	19.4	84	NNW	.....	.....	4	.....	8	.....	NNW	.....	.....	Smooth	E	Cloudy	
Colorado, New York, N. Y.	30.46‡	773.7‡	.....	.....	13	—10.6	.....	NE	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Hazy	
Constitution, N. 10° 14′, W. 79° 44′	29.95‡	760.7‡	.....	.....	78	25.6	91	NE	.....	.....	5	.....	8	.....	NE	.....	.....	Mod'ate	NE	Clear	
Enterprise. Villafranca, France	29.87‡	758.7‡	.....	.....	52	11.1	100	ENE	.....	.....	1	.....	10	.....	E	.....	.....	Long	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.42‡	772.7‡	.....	.....	39	3.9	82	ENE	3.6	1.6	.....	.....	2	.....	NE	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	29.95‡	760.7‡	.....	.....	46	7.8	92	ESE	2.4	1.1	..	.....	8	.....	E	0.11	2.8	.....	.....	Clear	
Kearsarge, N. 10° 00′, W. 82° 00′	30.02‡	762.5‡	.....	.....	76	24.4	86	SW	.....	.....	2	.....	10	.....	SW	.....	.....	Long	SW	Light rain	
Lackawana, Navy Yard, Mare I'd., Cal.	30.33‡?	770.4‡?	.....	.....	46	7 8	69	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, S. 31° 39′, W. 47° 39′	30.00‡	762.0‡	.....	.....	73	22.8	76	SSE	.....	.....	3	.....	5	.....	S;E	0	0	Mod ate	S;E	Fair	
Michigan, Erie, Pa.	30.00‡	762.0‡	.....	.....	24	— 4.4	61	SSE	.....	.....	4	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.36‡	771.1‡	.....	.....	35	1.7	80	N	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Overcast	
New Hampshire, Port Royal, S. C.	30.29‡	769.4‡	.....	.....	50	10.0	86	N	4	1.8	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Nipsic, Port of Spain, Trinidad, W.I.	30.04‡	763.0‡	.....	.....	78	25.6	78	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Onward, Callao, Peru	29.89‡	759.2‡	.....	.....	73	22.8	76	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Fair	
Palos, Tientsin, China	30.36‡	771.1‡	.....	.....	26	— 3.3	100	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.47‡	773.9‡	.....	.....	22	— 5.6	86	NE	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Pensacola, Callao, Peru	29.90‡	759.4‡	.....	.....	74	23.3	90	SE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Hazy	
Powhatan, Off Norfolk, Va.	30.41‡	772.4‡	.....	.....	40	4.4	73	NE	.....	.....	0–1	.....	2	.....	Calm	0	0	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	29.88‡	758.9‡	.....	.....	55	12.8	81	SSE	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Raining	
Ranger. Mare I'd, Navy Yard, Cal.	29.95‡	760.7‡	.....	.....	51	10.6	86	ENE	.....	.....	2	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Richmond, Hong-Kong, China	30.07‡	763.8‡	.....	.....	60	15.6	82	E	.....	.....	4	.....	10	.....	.....	0.02	0.5	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.36‡	771.1‡	.....	.....	55	12.8	?	NW	1	0.4	.....	.....	10	.....	NW	0.04	1.0	.....	.....	Cloudy	
Santee. Annapolis, Md	30.47‡	773.9‡	.....	.....	23	— 5.0	.....	E	.....	.....	3	.....	10	.....	W	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	29.91‡	759.7‡	.....	.....	70	21.1	85	SSE	.....	.....	5	.....	10	.....	SSE	.....	.....	Long	SSE	Cloudy	
St. Louis, League Island, Pa.	30.46‡	773.7‡	.....	.....	17	— 8.3	.....	E	6	2.7	.....	.....	10	.....	wsw	0	0	.....	.....	Cloudy	
Swatara, N. 35° 31′, W. 14° 48′	30.17‡	766.3‡	.....	.....	59	15.0	76	NNW	.....	.....	5–6	.....	2	.....	N	.....	.....	Heavy	NW	Squally	
Tennessee, Norfolk, Va.	30.42‡	772.7‡	.....	.....	40	4.4	82	NE	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Blue sky	
Trenton. Toulon, France	29.73‡	755.1‡	.....	.....	54	12.2	87	E	.....	.....	2	.....	10	.....	.....	8 h rs	8 h'rs	.....	.....	Cloudy	
Tuscarora, La Libertad, San Salvador	29.97‡	761.2‡	.....	.....	79	26.1	51	N	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.53‡	775.4‡	.....	.....	1	—17.2	.....	NW	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Wachusett, Montevideo, Uruguay. †	30.50‡	774.7‡	.....	.....	74	23.3	68	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	N	Fair	
Wyoming, Naples, Italy	29.97‡	761.2‡	.....	.....	55	12.8	80	SSW	.....	.....	2	.....	5	.....	SW	.....	.....	Smooth	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 58° 58′, W. 27° 49′	29.47‡	748.8‡	34	1.1		SW			5		10		WSW			Rough	W	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Locust Point, Md	30.36‡	771.6‡	19	— 7.2		ENE			1		8?		SW					Clear?	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent																			
N. 48° 57′, W. 38° 04′	28.80‡	731.5‡	48	8.9	78	WSW			0		9		WSW	Heavy	Heavy	Heavy	WSW	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 23° 49′, W. 108° 48′ †	30.17‡	766.3‡				NW			5		8		NW			Small	NNW	Cloudy	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 34° 00′, E. 137° 17′ †	30.00‡	762.0‡	56	13.3	69	NNW			5		10		NNW			Mod'ate	NNW	Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 39° 44′, W. 128° 00′ †	30.00‡	762.0	48	8.9		Var.			2	ck		N		0	0	Smooth	N	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal. †	29.94‡	760.5‡	52	11.1		S			3		5?			0	0	Heavy	W	Cloudy?	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Delney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Acapulco, Mexico †.	30.00‡	762 0‡	79	26.1	92	ENE			2		2		Calm	0	0	Light	E	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury.																			
S. S. City of Chester, E. Polemann.																			E. Polemann.
S. S. City of Panama, M. Connolly, Mazatlan, Mexico. †.	29.93‡	760.2‡	64	17.8		NE			1		2		NE	0	0	Smooth	NE	Clear.	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn.																			
S. S. City of Tokio, J. Maury N. 27° 00', E. 122° 30'. †.	30 08‡	764.0‡	56	13.3	75	NE			6		10			0	0	Heavy	NE	Overcast.	E. LeSack.
S. S. Colima, R. R. Searle.																			
S. S. Dakota, D. E. Griffiths Esquimault Harbor, Vancouver I'd. †	29.65‡	753.1‡	42	5.6		WSW			4		5?		W	0	0			Clear?	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Zalandia, R. C. Ghest.																			
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes.																			J. Farmer & W. Apetan.
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings.																			J. W. Jennings.
S. S. Britanic, H. Perry.																			J. Jones.
S. S. Celtic, B. Gleadell.																			
S. S. Republic, P. J. Irving.																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley.																			Mehaffey.
Schr. Adaie Fuller, J. Jorgensen.																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis.																			L. L. Lewis.
Bark. Carrie Heckie, B. F. Woodbury. S. 42° 00', E. 89° 30'. *	30.07‡	763.8‡	56	13.3		SW			4		5		SW			Long	SW	Clearing.	B. F. Woodbury.
Brigantine George, W. H. Champlin, N. 29° 20' W. 70° 15'.	30.28‡	769.1‡	68	20.0		E			4		10		SE			Smooth	N	Rainy	
Iron Cross, W. Randall, N. 39° 18', W. 17° 04'.	30.11‡	764.8‡	53.5	11.9	73	WNW			7		5		NW	Mod'ate	M'd'te	Heavy	WNW; NW	Squally	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

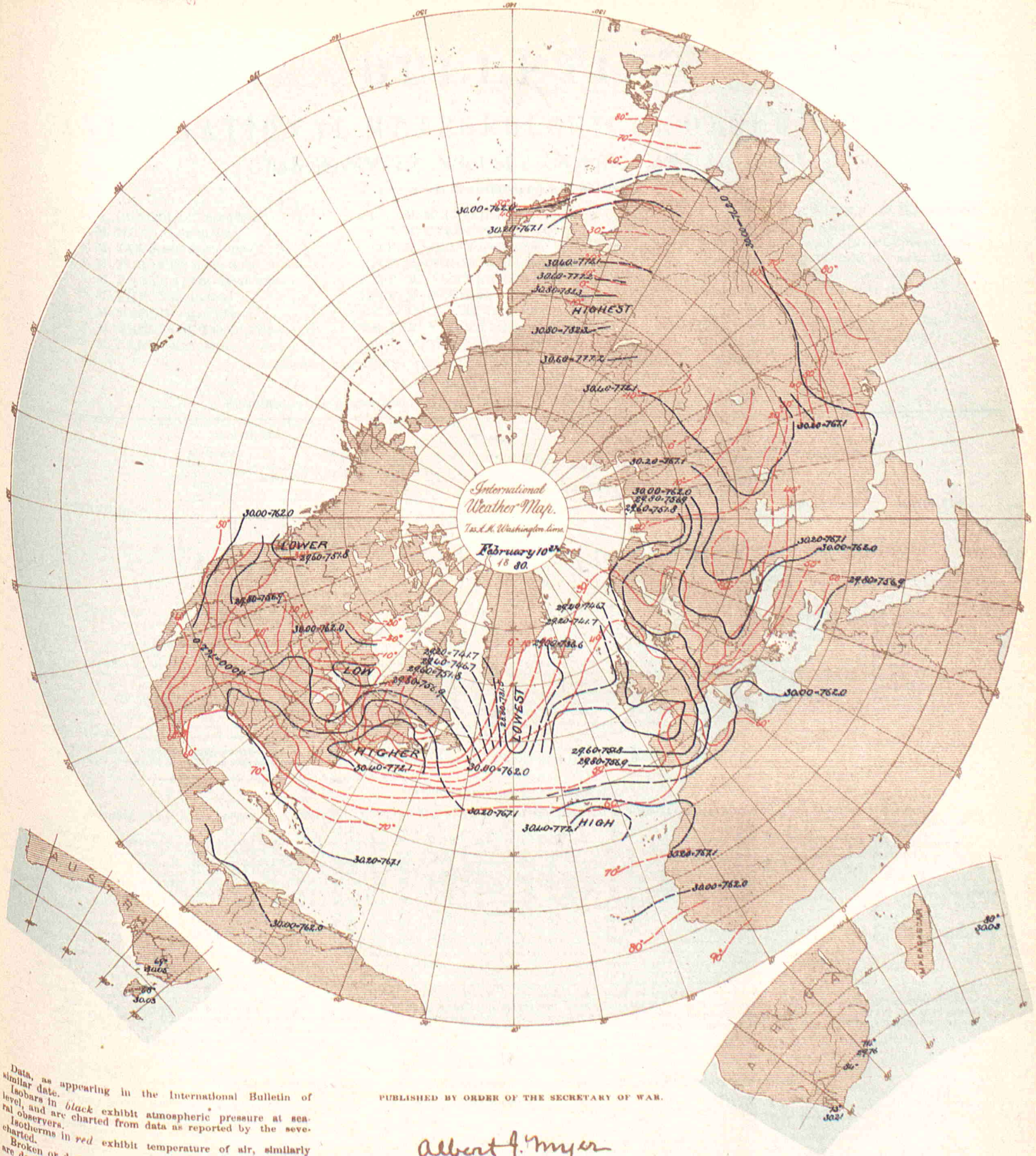
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 11, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.44	773.1				NE			2		4			0	0	Cloudy	
Nemours			30.28	769 2	56.8	13.8	77	NNW			5		8			0.350	8.9	Very cloudy	Kesxuche.
Algiers			30.10	764.6	57.2	14.0	69	WSW			6		0			Inap.	Inap.	Clear	Tourillere.
La Calle			30.08	764.0	59.5	15.3	78	NW			2		7			0.091	2.3	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.07	763.8															Herbin.
Tebessa			30.18	766 0															Watrin.
Geriville			30.13	765.2	58.6	14.8	55	WNW			1		5			0	0	Cloudy	Brugniaux.
Laghouat																			Bertrand.
Biskra			30.15	765.8	52.5	11.4	77	WNW			2		10			Inap.	Inap.	Covered	Chanvaux.
			30.05	763.3	67.6	19.8	43	WNW			6		2			0	0	Fair	

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Agram	29.34	745.1	29.90	759.4	42.4	5.8	69	W			1		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.8	29.97	761.3	26.6	— 3.0	83	WSW	0.2	0.1			1			0	0		Dr. Wierzbicki.
Eperies	29.60	738.2	29.99	761.8	26.6	— 3.0	91						10			0	0		Julius Mikolik.
Gratz	28.62	726.9	29.93	760.2	28.4	— 2.0	68	SSW			2		3			0	0		Andreas Rospini.
Hermannstadt	28.58	725.9	30.11	764.7	23.9	— 4.5	84	SSE			1		3			0	0		Prof. A. Gottschling
Kremsmünster, Observatory	28.45	722.5	29.86	758.5	25.2	— 3.8	91	ENE			1		3			0	0		The Staff.
Lemberg	28.91	734.2	29.94	760.5	30.7	— 0.7	85	SE			1		9			0	0		Dr. T. Stanecki.
Pola	29.84	757.9	29.95	760.8	50.9	10.5	91	ESE			2		10			0.087	2.2		I.R. Hydrographic Office.
Szathmar	29.61	752.0	30.10	764.4	34.2	1.2	92	SE			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.68	753.9	29.97	761.3	37.0	2.8	96	Calm			0		10			0	0		Karl Stancel.
Trieste	29.87	758.7	29.97	761 3	48.2	9 0	95	Calm			0		10			0.520	13 2	Raining	P. Busin.
Vienna	29.20	741.6	29.93	760.1	23.4	— 4.8	95	Calm			0		10			0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	29.43	747.4	29.68	752.6	37.9	3.3	97	E			0		10			0.218	5.4	Light rain	Royal Observatory.
Furnes	29.67	753.5	29.69	754.1	37.2	2.9	98	NNE			2		10			0.528	13.4	Raining	M. E. de Cae.
Maeseyck	29.53	750.0	29.65	753.2	40.3	4.6	98	SE			0		10			0.067	1.7		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.64	752.8	29.74	755.4	43.0	6.1	.....	S	14	6.3	.....	.....	1	.....	.....	0.050	1.25	Blue sky	W. Boswell.
Ardrossan	29.71	754.6	29.73	755.1	42	5.6	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	G.Carrick.
Armagh, (Observatory)	29.46	748.3	29.70	754.4	39.8	4.3	.....	S	16	7.2	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.79	756.7	41.9	5.5	.....	W	3	1.3	.....	.....	6	.....	.....	.....	.....	Misty	John Hartnup.
Bolton (Sharples)	29.25	742.9	29.77	756.1	42.4	5.8	.....	NW	.....	.....	.....	.....	10	.....	.....	.....	.....	Foggy	Thomas Mackereth.
Bradford, Yorkshire	29.38	746.2	29.78	756.4	41.4	5.2	84	SW	.....	.....	8	.....	10	.....	.....	0.01	0.3	Overcast	J McLandsborough.
Bridgetown, Barbadoes	30.02	762.5	30.05	763.3	78	25.6	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.68	753.9	29.78	756.4	43.0	6.1	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.76	755.9	42.0	5.6	.....	N	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.63	752.6	29.76	755.9	41.6	5.3	.....	N	.....	.....	0	.....	9	.....	.....	.....	.....	Gloomy	F. Magauran, Q. M. S'gt., R. E
Dor aghadee	29.69	754.1	29.74	755.4	43	6.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.66	753.4	29.69	754.1	43	6.1	.....	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	29.65	753.1	29.88	758.9	48.7	7.3	.....	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	The Staff.
Fort Napier, Natal	27.83	706.9	30.04	763.0	66.4	19.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.63	752.6	29.86	758.4	87	30.6	.....	NE	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.51	749.5	44	6.7	.....	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	30.16	766.1	30.22	767.6	54.2	12.3	.....	N	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.53	750.0	29.73	755.1	42.0	5.6	.....	S	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.73	755.1	29.73	755.1	42	5.6	.....	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.60	751.8	29.77	756.1	41.9	5.5	.....	N	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.29	744.0	29.81	757.2	46.5	8.1	.....	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Dr.S.E Hoskins, F.R.S.
Helston	29.83	757.7	29.95	760.7	48	8.9	.....	E	.....	.....	4	3ck	.....	.....	.....	0.23	5.8	Squally	M. P. Moyle.
Holyhead	29.70	754.4	29.78	756.4	46	7.8	.....	SSW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.55	750.6	29.84	757.9	46.3	7.9	.....	N	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew (Observatory)	29.75	755.6	29.78	756.4	42.3	5.7	.....	N	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.54	750.3	29.80	756.9	41.5	5.3	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.96	761.0	30.03	762.7	63.4	17.4	.....	SW	.....	.....	.....	.....	2k	.....	.....	.....	.....	Blue sky	A. King.
Nairn	29.56	750.8	29.65	753.1	44	6.7	.....	SE	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.19	766.8	.....	.....	.....	NE	.....	.....	.....	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.62	752.3	29.81	757.2	43.7	6.5	.....	SSE	.....	.....	2	ck	9s	NNE	NNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.27	743.4	29.80	756.9	47.0	8.3	.....	Var.	.....	.....	0–1	.....	8	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.57	751.1	29.83	757.7	42	5.6	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.76	755.9	29.84	757.9	47.0	8.3	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	29.66	753.4	29.74	755.4	47	8.3	.....	SSW	.....	.....	5	.....	5	.....	.....	.....	.....	⅛ clouded	Wm. Kennedy.
St. Ann's Head	29.65	753.1	29.82	757.4	46	7.8	.....	SE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.60	751.8	41.5	5.3	.....	SSE	13	5.8	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.97	761.2	30.04	763.0	45.8	7.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	Serg't W. H. Lyne.
Sheffield	29.53	750.0	29.81	757.2	42.4	5.8	.....	NE	.....	.....	1	.....	9	.....	.....	0.07	1.8	Misty	W. F. Cooper.
Silloth Rectory	29.76	755.9	29.79	756.7	36.5	2.5	95	Calm	.....	.....	0	.....	10	.....	.....	0.110	2.79	Overcast	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.78	756.4	41.0	5.0	.....	WSW	7	3.1	.....	.....	0	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.58	751.3	29.80	756.9	43.3	6.3	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.80	756.9	29.86	758.4	52	11.1	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.55	750.6	29.57	751.1	47.1	8.4	.....	S	43	19.2	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.04	763.0	30.08	764.0	76.5	24.7	63	S	28.4	12.7	.....	1	1cs	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.80	680.7	.....	.....	76	24.4	.....	SW	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.13	765.3	70.0	21.1	78	SW	.....	.....	3	.....	10k	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.77	756.1	45.5	7.5	.....	SW	.....	.....	3	.....	3k	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.01	762.3	79.7	26.5	56	E	20.5	9.2	.....	0	2	.....	ESE	0.24	6.1	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	71.0	21.7	69	ESE	14	6.3	.....	.....	9	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.44	747.8	45	7.2	.....	S	.....	.....	8	5	5	SSE	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	29.58	751.3	.....	.....	.....	S	.....	.....	6	2	6	SSW	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 40° 14′, W. 29° 31′	.....	.....	30.25‡	768.3‡	59.5	15.3	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 21° 08′, W. 38° 08′	.....	.....	30.07‡	763 8‡	80.5	26.9	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve
Bute Fylde, N. 33° 45′, W. 59° 50′	.....	.....	30.17	766.3	63	17.2	.....	SE	.....	.....	3	.....	10	.....	.....	6	NW	Overcast	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	30.19	766 8‡	72	22.2	.....	E	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell
S. S. Richmond, N. 24° 40′, W. 76° 40′	.....	.....	30.26	768.6	75	23.9	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. H. Stuart.
Barque Royal Alexandra, S. 24° 35,′ E. 59° 56′	.....	.....	30.13‡	765.3‡	78.3	25.7	.....	SE	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Penrson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and tem-perature. Inches.	BAROMETER. Corrected for instru-m'tal error and tem-perature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.25	666.7	29.97	761.2	67.1	19.5	81	NE	.....	.....	2	.....	8s	.....	NE	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.88	759.0	29.93	760.2	34.0	1.1	94	SE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	29.84	758.0	29.86	758.5	36.7	2.6	87	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.56	750.7	29.60	751.8	—14.4	—25.8	.....	N	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.68	728.5	28.72	729.6	30.9	— 0.6	96	E	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.38	746.4	29.42	747.3	44.4	6.9	72	S	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	29.79	756.7	29.00	759.5	34.0	1.1	90	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.24	742.7	29.79	756.7	41.0	5	93	N	.....	.....	2	.....	10	.....	NW	0.43	11.	Raining	Collignon, Director.
Amiens, Normal School	29.59	751.6	29.71	754.5	43.2	6.2	94	NE	.....	.....	1	.....	5	.....	NE	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.42	747.3	29.69	754.0	36.9	2.7	100	N	.....	.....	2	.....	10n	.....	N	0.118	3.0	Raining	Klein, Commandant.
Avignon, Normal School	29.74	755.4	29.82	757.4	51.8	11	88	N	.....	.....	1	.....	10	.....	Calm	0.331	8.4	Covered	Giraud, Director.
Bar-sur-Seine	29.20	741.8	29.78	756.0	46.0	8.1	83	S	.....	.....	2	.....	10	.....	SW	0.189	4.8	Light rain	C. Saillard, Director.
Beauvais, Normal School	29.41	747.1	29.69	754.0	41.9	5.5	88	NW	.....	.....	1	.....	10	.....	WNW	0.423	10.75	Covered	Frère Eugene Marie.
Besançon, Normal School	28.93	734.8	29.87	758.6	47.3	8.5	70	S	.....	.....	1	.....	6	.....	SSE	0.91	23.	Very cloudy	A. Carré, Director.
Bordeaux	29.74	755.4	29.94	760.4	45.7	7.6	79	SE	.....	.....	1	.....	10	.....	.....	0.134	3.40	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	28.98	736.1	29.39	749.1	48.6	9.2	73	S	.....	.....	1	5c	.....	.....	S	1.276	32.4	Cloudy	Marlot, Director.
Bourges, Normal School	29.25	743.0	29.82	757.3	48.6	9.2	81	S	.....	.....	1	.....	10cn	.....	S	0.606	15.4	Covered	M. Gence, Director.
Brest, Naval Observatory	29.69	754.1	29.93	760.3	50.7	10.4	82	NW	.....	.....	2	.....	5	.....	NW	0.295	7.50	.....	Ch. de Rermaree, Dir
Caen, Normal School	29.71	754.5	29.78	756.5	43.2	6.2	94	NW	.....	.....	1	.....	5	NW	N	0.433	11.0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.37	745.9	29.78	756.4	56.5	13.6	46	W	.....	.....	1	.....	2	.....	W	0.12	3.	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'	29.41	747.0	29.73	755.2	45.5	7.5	89	SSW	.....	.....	1	.....	10	NNE	NNE	0	0	Covered	Jadot, Director
Chartres, Normal School	29.13	739.9	29.71	754.6	41.4	5.2	91	N	.....	.....	1	.....	10	NW	.....	3.84	90.	Light rain	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.41	721.6	29.76	755.9	51.8	11.0	47	W	.....	.....	4	.....	8	.....	.....	0.012	0.3	.....	Alluard, Director.
Commercy, Normal School	28.87	733.4	29.74	755.5	45.3	7.4	86	SW	.....	.....	1	.....	5kn	SW	SW	0.47	12.	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.69	728.8	29.84	757.8	48.0	9.2	84	NW	.....	.....	2	.....	8	SW	NW	0.28	7.	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.06	738.2	29.84	758.0	44.6	7	91	NNE	.....	.....	1	.....	ckn	.....	.....	0.287	7.3	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.59	751.6	29.81	757.2	44.6	7.0	86	SW	.....	.....	1	.....	10	.....	.....	0.260	6.6	Covered	Mouillot, Director.
Le Mans, Normal School	29.47	748.5	29.78	756.4	43.2	6.2	91	N	.....	.....	2	.....	10	.....	N	0.260	6.6	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.96	735.6	29.88	758.9	48.7	9.3	71	SSE	.....	.....	1	.....	5kn	.....	S	0.972	24.7	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.79	756.6	29.90	759.4	50.7	10.4	69	N	.....	.....	7	.....	8	.....	N	0.571	14.5	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.19	741.5	29.82	757.3	49.6	9.8	74	E	.....	.....	1	.....	10s	.....	SE	1.150	29.2	Clear	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.50	749.4	29.78	756.3	53.8	12.1	71	W	.....	.....	1-2	.....	8	.....	SE	0.079	2.0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.70	728.9	29.70	755.8	45.1	7.3	83	S	.....	.....	1	.....	5	.....	.....	0.28	7.	Fair	Barbier, Director.
Mont-Louis	24.57	624.0	29.88	759.0	34.3	1.3	69	WSW	.....	.....	3	.....	5	.....	SE	0.094	2.4	.....	M. Cave, for Dr. Fines.
Nice	29.77	756.2	29.80	757.0	53.2	11.8	83	E	.....	.....	4	.....	10	E	E	1.528	38.8	Raining	Capt. Boissière, Director.
Nismes, Normal School	29.57	751.0	29.77	756.2	54.9	12.7	80	SW	.....	.....	3	.....	10	.....	W	0.980	24.9	Covered	M. Boyer, Director.
Perpignan	29.71	754.7	29.82	757.4	53.6	12.0	61	S	3.8	1.7	.....	.....	2	S	.....	0.020	0.5	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.16	562.6	.....	.....	19.0	— 7.2	.....	.....	.....	.....	.....	.....	10	.....	NW	0.630	16.0	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.82	732.1	29.59	759.2	52.5	11.4	90	S	.....	.....	4	.....	10	S	S	.....	.....	Raining	M. Tallieu
Puy de Dome (Summit) Obs	24.87	631.6	.....	.....	29.3	— 1.5	98	WSW	.....	.....	4	.....	8	.....	WSW	0.067	1.7	Rain & fog	Alluard, Director.
Rochefort, Naval Obs'y	29.76	755.9	29.79	756.7	49.5	9.7	90	W	.....	.....	1	.....	10	W	W	0.04	1.	Raining	Lt E. Decante, Director
Rouen, Normal School	29.69	754.0	29.77	756.2	43.5	6.4	82	NNE	.....	.....	1	.....	10	.....	NW	0.169	4.3	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.79	756.7	29.82	757.5	44.0	7.0	83	N	.....	.....	2	.....	8	NNW	NNW	0.303	7.70	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.56	750.7	29.72	754.9	42.3	5.7	100	WNW	.....	.....	1	.....	10	.....	.....	0.331	8.4	Covered	E. Renou, Director.
Tarbes, Normal School	28.99	736.8	29.80	756.8	41.0	5	84	W	.....	.....	3	.....	.....	.....	.....	0.006	0.004	.....	T. Huguet, Director
Toulouse, Observatory	29.14	740.1	29.86	758.4	50.7	10.4	74	WSW	.....	.....	2	.....	10	.....	.....	0.126	3.2	Covered	B. Baillaud, Dir.
Tours	29.56	750.7	29.75	755.7	48.2	9.0	92	W	.....	.....	1	.....	10	.....	W	0.295	7.5	Covered	M. de Tastes.
Versailles, Observatory	29.23	742.4	29.72	754.9	40.3	4.6	97	NW	.....	.....	1	.....	10	.....	.....	0.406	10.31	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.06	738.2	29.78	756.4	50.0	10	92	ESE	.....	.....	1	.....	2	.....	S	0.583	14.8	Slightly cld'y	Nicot, Director.
SUB-SERIES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort de France, Martinique	30.07	763.6	30.09	764.3	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.91	23.	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.43	747.6	.....	.....	41.0	5.0	100	WNW	.....	.....	1	.....	10	.....	.....	0.547	13.9	Raining	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.31	769.8	30.34	770.5	36.9	2.7	80	NE	4.7	2.1	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens, J.S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added: *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.7	29.82	757.4	35.6	2.0	71	SE			2		7ks	W		0.004	0.1	Raining	Prof. Dr. Hoh.
Berlin	29.67	753.6	29.85	758.1	34.9	1.6	78	NE			2		5	NW		0	0		Prof. Dr. Arndt.
Breslau	29.38	746.3	29.91	759.7	33.8	1.0	73	SE			3		1			0	0		Royal University Obs'y
Carlsruhe	29.35	745.4	29.78	756.4	42.4	5.8	94	SE			0		10	SW		0 028	0.7		Albert Senz.
Cassel	29.13	739.8	29.73	755.1	37.8	3.2	79	SE			1		10	S		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.48	748.7	29.85	758.2	39.2	4.0	64	NNE			0		10			0.004	0.1		Physical Society.
Friedrichshafen	28.35	720.2	29.82	757.5	38.1	3.4	76	SW			3		8	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.74	755.4	29.81	757.2	35.2	1.8	71	SE			3		1					Raining	Dr. Reinhold Kleeman.
Kiel	29.82	757.4	29.84	757.8	36.5	2.5	79	E			2		3			0.008	0.20		Dr. Reinhold Kleeman.
Königsberg (Prussia)	29.85	758.1	29.93	760.3	27.9	— 2.3	79	SE			2		10			0	0		Prof. Dr. G. Karsten.
Köslin			29.93	760.2	35.6	2.0		Calm			0		2			0	0		Prof. E. Luther.
Leipsic Observatory	29.37	746.0	29.81	757.1	34.2	1.2	65	ESE			1		9			0	0		H. Müller.
Magdeburg	29.58	751.2	29.80	756.9	33.1	0.6	83	ESE			4		7cs	WSW		0	0		Prof. Dr. Brühns, Privy Counselor
Memel	29.87	758.6	29.91	759.8	24.6	— 4.1	84	SSE			3		10m						Dr. Assmann.
Munich (München)	27.92	709.2	29.77	756.1	31.1	— 0.5	77	W			2		9			0	0		Reinbrecht & Issermann
Neufahrwasser	29.95	760.6	29.96	761.0	35.1	1.7	73	NNW			1		10			0	0		Dr. C. Lang.
Neustadt (Palatinate)	29.23	742.4	29.75	755.6	41.5	5.3	86	Calm			0		10	SW		0	0		A. Lothes.
Posen	29.63	752.6	29.93	760.2	32.5	0.3	89	E			4		1			0	0		Reallehrer Dicknether.
Strassburg (in Alsace)	29.24	742.8	29.80	756.9	44.1	6.7	98	Calm			0		10	W		0.124	3.15		Prof. Dr. Magener.
Stuttgart	28.80	731.4	29.74	755.5	46 9	8.3	71	NE			1		8	SW		0	0		Imp. University Observatory.
Thorn	29.82	757.3	30.00	762 1	30.2	— 1.0	74	NE			2		0			0	0		Prof. Dr. Schoder.
Weissenburg (Bavaria)	28.30	718.8	29.87	758.6	34.3	1.3	78		2.0	0.9			10		W	0	0		Dr. Cunerth.
Wustrow	29.88	758.9	29.90	759.5	35.2	1.8	96	E			2		8s			0	0		Reallehrer J. Hopfner.
German Naval Series.																			E. Schütz, Director.

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.9	30.08	764.0	56.3	13.5		SW			1.5		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	759.9	29.97	761.2	70.0	21.1	17	SW	28	12.5			4	SW		0	0	D. clouds	
Deesa	29.49	749.0	29.97	761.3	73.9	23.3	18	NW	7.1	3.2			0			0	0	Blue sky	
Bombay	29.87	758.7	29.92	759.8	73.5	23.1	51	NNW	2.1	0.9			0			0	0	Blue sky	
Poona (Yarrowda)	27.99	711.0	29.85	758.1	77.7	25.4	18	NW	15	6.7			1			0	0	D. clouds	
Belgaum	27.33	694.2	29.89	759.2	72.3	22.4	45	SW	5	2.2			0			0	0	Blue sky	
Lahore	29.20	741.6	29.98	761.6	53.7	12.1	58	Calm	3.3	1.5			9			0.05	1.3	Overcast	
Roorkee	29.01	736.9	29.95	760.8	60.2	15.7	44	NW	2.4	1.1			2			0.01	0.3		
Agra	29.37	746.0	29.95	760.8	65.8	18.8	40	SW	3.8	1.7			0			0	0		
Nagpur	28 79	7 1.3	29.84	757.9	79.2	26.2	38	Calm	2.1	0.9			7	W		0	0	D. clouds	
Jubbulpore	28.50	723.9	29.89	759.2	69.9	21.1	38	N	1.9	0.8			8		E	0	0	Overcast	
Lucknow	29.53	750.2	29.93	760.2	61.3	16.3	91	Calm	0.1	0.04			10			0	0	Overcast	
Allahabad	29.61	752.1	29.93	760.3	66.2	19.0	87	Calm	2.5	1.1			10			0	0	Overcast	
Patna	29.77	756.1	29.96	761.0	60.2	15.7	97	E	0.6	0.3			10			0.04	1.0	Overcast	
Hazaribagh	27.82	706.8	29.89	759.2	64.8	18.2	40	SE	11.2	5.0			10	E	E	1.13	28.7	Overcast	
Cuttack	29.80	757.0	29.89	759.1	78.0	25.6	56	SW	3.4	1.5			10					Thunder-storm	
Jalcutta (Alipore)	29.88	758.9	29.90	759.4	75.7	24.3	66	SSW	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.52	749.7	29.92	760.0	60.9	16.1	90	Calm	2.3	1.0			1			0	0	D. clouds	
Chittagong	29.84	758.0	29.93	760.3	74.6	23.7	83	W	3.3	1.5			10		W	0.13	3.3	Overcast	
Sibsagar	29.59	751.5	29.93	760.3	67.0	19.4	78	ENE	1.9	0.8			0			0	0	Misty	
													10	W	W	0	0	Gloomy	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.56	750.9	29.98	761.6	43.5	6.4	95	E	0.7	0.3	.....	.....	10	.....	.....	0.189	4.8	.....	Prof. Giovanni Clodig.
Milan	29.43	747.5	29.97	761.2	35.6	2.0	91	W	.....	.....	1	.....	10	.....	.....	0.858	21.8	.....	Prof. Schiaparelli.
Padua	29.85	758.2	29.97	761.1	41.2	5.1	98	NNE	11.2	5.0	.....	.....	10	.....	.....	0.319	8.1	.....	Prof. Dott. Lorenzoni.
Moncalieri	29 03	737.4	29.97	761 3	36.1	2.3	93	NNW	3.1	1.4	.....	.....	10	.....	.....	0.256	6.5	.....	Prof. P. F. Denza.
Genoa	29.67	753.7	29.87	758.7	45.7	7.6	69	N	9.4	4.2	.....	.....	10	SW	.....	4.186	106.3	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	711.0	29.95	760.7	36.0	2.2	87	W	.....	.....	2	.....	10	.....	.....	0.709	18.0	.....	Prof. D. C. Bruno.
Pesaro	29.86	758.5	29.91	759.8	45.7	7.6	89	NE	4.9	2.2	.....	.....	10	SSW	.....	0.102	2.6	.....	Prof. Luigi Guidi.
Florence	29.84	752.9	29.91	759 6	54.5	12.5	98	SE	.....	.....	2	.....	10	S	.....	0.094	2.4	.....	Cav. F. Meucci.
Leghorn	29.79	756.7	29.88	758 9	58.1	14.5	82	S	18.6	8.3	.....	.....	10	S	.....	0	0	.....	Prof. P. Monte.
Rome	29.81	757.2	29.99	761.8	53.8	12.1	82	S	16.1	7.2	.....	.....	10	.....	.....	0.315	8.0	.....	Prof. P. S. Ferrari.
Lecce	29.78	756.4	30.04	763.0	57.2	14.0	46	SE	13.0	5.8	.....	.....	6	S	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.2	30.00	762.0	60.1	15.6	73	NW	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.72	755.0	29.93	760 1	57.0	13.9	76	E	.....	.....	2	.....	10	SE	.....	0.205	5.2	.....	Prof. A. Pacinotti.
Palermo	29.73	755.1	29.98	761 6	60.7	10.4	79	NE	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Prof. G. Ciaccíatore.
Syracuse	29.97	761.3	30.02	762.4	57.6	14.2	83	SSW	7.4	3.3	.....	.....	9	W	.....	0.	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.51	749.5	30.04	763.1	51.6	10.9	88	NW	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.08	764.0	30.09	764.3	42.8	6.0	75	NE	7.5	3.4	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	40.9	4.9	77	N	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	43.8	6.6	90	N	4.0	1.8	.....	.....	10s	.....	.....	0.100	2.54	Cloudy	The Staff.
Wakayama	30.01	762.2	30.06	763.5	42.7	5.9	85	NW	1.1	0.5	.....	.....	2cs;ks	.....	.....	0	0	Fair	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.11	637.7	30.27	768.8	45.5	7.5	51	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.49	622.0	30.24	768.1	55.0	12.8	73	NW	.....	.....	1	0	0	.....	.....	0	0	Light haze	Prof. M. Leal.
Mazatlan	29.77	756.2	30.04	762.9	63.0	17.2	73	E	.....	.....	1	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.12	587.2	30.26	768.5	46.6	8.1	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.13	613.0	.....	.....	59.9	15.5	51	NE	.....	.....	4	4k	0	S	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.99	609.4	30.10	764.6	48.2	9.0	65	W	.....	.....	1	0	0	.....	.....	0	0	Very clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.6	30.42	772.6	41.2	5.1	58	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.35	771.0	46.0	7.8	50	SE	.....	.....	1	1	0	E	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.09	764.3	30.10	764.6	66.7	19.3	90	SE	.....	.....	1	0	0	.....	.....	0	0	Very foggy	Prof. M. M. Chàzaro.
Vera-Cruz	30.09	764.3	30.12	765.0	68.0	20.0	90	Calm	0	0	.....	.....	3sk	.....	.....	0	0	Fair	Prof. J. Rossell
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.66	753.4	29.66	753.4	37.0	2.8	.....	NNE	.....	.....	3	.....	.....	.....	.....	0.028	0.7	.....	
Groningen	29.66	753.4	29.72	754.8	38.1	3.4	.....	E	.....	.....	0	.....	.....	.....	.....	0.008	0.2	.....	
Helder	29 69	754.2	29.69	754.2	36.1	2.3	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.64	752.9	29.64	752.9	35.1	1.7	90	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	29.63	752.6	29.68	753.8	38.1	3.4	85	NE	.....	.....	2	.....	10	.....	.....	0.063	1.6	Overcast	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.77	756.2	29.83	757.6	38.8	3.8	87	S	12.3	5.5			10			0.024	0.6		
Brönö	29.94	758.0	29.88	759.0	34.5	1.4	74	E	18	8			2			0	0		
Christiana	29.84	757.8	29.99	761.7	35.2	1.8	85	NE	0	0			10			0.028	0.7	Foggy	
Tromsö	29.88	759.0	29.93	760 1	27.7	— 2.4	63	SW	7	3			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.91	759.6	30.12	765.0	54.7	12.6	83	W			3		4			0.167	4.0		Dr. J. A. Sampaio.
Campo Major	29.27	743.4	30.30	769.6	49.3	9.6	79	WNW	8.1	3.6			8			0	0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.41	772.3	30.49	774.5	62.6	17.0	47	SE	4.9	2.2			4			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	30.00	761.9	30.36	771.2	55.2	12.9	57	NW	15.0	6.7			7	NW		0.154	3.9		The Staff.
Ponta Delgada (Azores)	30.19	766.7	30.26	768.5	60.4	15.8	76	SW	29.8	13.3			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira				J. C M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto				H. de C. C. e Athayde.
Rio Duro				J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa				
Porto Praya, Cape Verd Ids.	3	NE	D. clouds	A.de SouzaRoza, 2ndL't
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado. Capt. J. A de Brito Capello.				
St. Paul de Loando		WNW	D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	1	N	Raining, 4 hr's rain-fall	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.27	768.9	30.29	769.4	19.0	— 7.2	93	W	4	2			2cs						Capt. Ssellwerstow.
Astrakhan	30.34	770.5	30.25	768.4	30.7	— 0.7	88	Calm	0	0			10cs						Capt. Wisganow.
Barnaul	29.88	759.0	30.45	773.5	— 3.1	- 19.5	84	SW	0	0			7					Light clouds	Meteorological Obs.
Dorpat	29.76	755.9	30.02	762.5	23.5	— 4.7	56	ESE	9	4		1c							Prof. Dr. Weihrauch.
Ekaterinburg	28.84	732.6	29.·7	758.7	16.2	— 8.8	82	W	9	4			10					Light snow.	Meteorological Obs.
Irkutsk																			
Kasan	29.87	758.7	30.16	766.0	23.5	— 4.7	82	SW	2	1			10						Physical Cabinet.
Kertch	30.10	764.5	30.12	765.0	26.2	— 3.2	100	Calm	0	0			6						Lagorio.
Kieff	29.40	746.7	30.09	764.2	16.0	— 8.9	75	SE	4	2		c;ck	7cs;ks						Physical Cabinet.
Krotkowo*	29.71	754.6	30.22	767.5	25.0	— 3.9	63	NW	0	0			10						Cand. Fatjanow.
Lugan	29.99	761.7	30.21	767.4	13.5	—10.3	76	ENE	18	8			0						Meteorological Obs.
Moscow	29.76	756.0	30.35	770.9	26.6	— 3.0	46	S	4	2			7s						Meteorological Obs.
Nertchinsk	28.08	713.1	30.74	780.7	—15.0	—26.1	84	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.10	764.4	30.17	766.2	23.4	— 4.8	84	E	4	2			10n						Meteorological Obs.
Nukuss	30.11	764.8	30.35	771.0	29.5	— 1.4	58	ENE	9	4			0						Kurdakof.
Orenberg																			
Pekin (China)	30.30	769.5	30.44	773.1	26.6	— 3.0	87	Calm	0	0			9n						Physical Observatory.
St. Petersburg	30.11	764.9	30.13	765.3	26.6	— 3.0	61	ESE	13	6			4cs;s					Light clouds	Central Physical Obs.
Tashkend	28.82	731.9	30.53	775.5	22.3	— 5.4	85	Calm.	0	0			3						Teich, A. M.
Tiflis	28.64	727.5	30.10	764.5	42.4	5.8	49	SW	4	2			4s						Physical Observatory.
Vladivostock																			
Warsaw	29.57	749.6	29.95	760.8	30.4	— 0.9	80	Calm	0	0			0						Astronomical Obs.
Wilna	29.51	749.6	29.96	760.9	23.0	— 5.0	67	SSE	4	2			3						Astronomical Obs.
Yeniseisk	30.24	768.2	30.58	776.8	—18.9	—28.3	73	Calm	0	0			0						Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,166 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.79	756.6	29.89	759.3	54.0	12.2	47	W	6.5	2.89			3			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	29.99	761.8	30.05	763.3	49.3	9.6	94	NW	8.3	3.71			10			0.870	22.1	Covered	Prof. Manuel de Naverau
Burgos, Met. Obs'y	27.06	687.4			41.0	5.0	66	W	13.8	6.15		0	6			0.079	2.0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4	30.15	765.7	45.1	7.3	60	W	17.2	7.67		0	7			0.094	2.4	Cloudy	The Staff.
Murcia, Met. Obs'y	29.88	759.0	30.04	762.9	58.6	14.8	44	NW	8.7	3.78		0	0			0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.27	743.4	30.18	766.6	49.8	9.9	78	WNW	4.3	1.9			8			0.094	2.4	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.14	765.5	30.20	767.2	68.9	20.5	87	ENE	1.8	0.8		1ck	2k	ENE		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.6	29.92	759.9	82.1	27.8	76	SE	3.7	1.7			1s		E	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.23	767.9	30.33	770.4	54.6	12.5	60	WNW	14.0	6.3		0	1		NW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.06	763.4	30.15	765.7	72.7	22.6	95	SE	10.7	4.76		4kn	4kn	SE	SE	0.128	3.25	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.12	765.0	30.16	766.0	16.9	— 8.4	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.02	762.6	30.08	763.9	27.3	— 2.6	100	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.97	761.3	30.02	762.6	31.3	— 0.4	100	Calm	.....	.....	0	.....	10	.....	.....	0.020	0.5	.....	
Stockholm	29.82	757.5	30.00	762.0	32.0	0.0	96	NNE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.79	756.6	29.85	758.1	32.4	0.2	96	N	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.86	758.4	29.95	760.6	32.9	0.5	92	N	5.6	2.5	.....	.....	10	.....	.....	0.049	1.25	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 11° 34', W. 79° 43'	.....	.....	29.99‡	761.7‡	79.2	26.2	.....	NE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.40	721.3	29.87	758.6	41.0	5.0	87	NNW	.....	.....	2	.....	7	.....	.....	0.539	13.7	Cloudy	The Observatory.
Zurich	28.17	715.4	29.85	758.2	40.3	4.6	89	W	.....	.....	1	.....	9	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.3 mm.; Thermometer, +1.9 Cent. Relative Humidity, —14 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.08	763.9	43.9	6.6	84	N	0	0	.....	.....	10	.....	.....	0	0	Foggy	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.08	763.9	59.4	15.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.95	760.8	62.1	16.7	68	W	.....	.....	1	c	7k	NE	SW	0.14	3.6	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.15	765.8	30.16	766.1	— 5	—20.6	.....	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	30.12	765.0	30.19	766.8	23	— 5.0	86	Calm	0	0	.....	7cs	2ks	.....	.....	0.10	2.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.01	762.2	30.05	763.3	14.3	— 9.8	100	N	5	2.2	.....	.....	10n	.....	.....	0.30	7.6	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.34	770.6	—12.5	—24.7	100	E	.....	.....	1	.....	Fog	.....	.....	0.40	10.2	Foggy	James Smith, M. A.
Dalhousie, N. B	30.05	763.3	30.23	767.8	9.5	—12.5	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	2.0	—16.7	86	SW	12	5.4	.....	3k	5s	W	.....	0.01	0.3	Fair	J. McWilliams.
Fredericton, N. B	30.19	766.8	30.26	768.6	— 1.9	—18.8	100	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.57	725.7	29.44	774.8	14.4	— 9.8	93	NE	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	29.10	739.1	30.30	769.6	16.0	— 8.9	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.84	757.9	29.98	761.5	30.5	— 0.8	96	NW	16	7.2	.....	.....	10ks	.....	.....	0.310	7.87	Cloudy	A. Allison.
Hamilton, Ontario	29.94	760.5	30.34	770.6	19.7	— 6.8	92	W	.....	.....	1	10cs	0	W	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.99	761.7	30.35	771.1	6.5	—14.2	56	NE	2	0.9	.....	2cs	0	.....	.....	0.14	3.6	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.04	763.0	30.08	764.0	16.2	— 8.8	85	SW	7	3.1	.....	5k	0	SW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	30.12	765.0	30.35	770.9	3.9	—15.6	77	SW	11	4.9	.....	0	1s	.....	.....	0.17	4.3	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	30.03	762.7	30.07	763.8	— 3.7	—19.8	89	W	.....	.....	1	0	5s	.....	.....	0	0	Fair	J. R. Nesson.
Norwood, Ontario	29.56	750.8	30.35	770.9	0.3	—17.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.49	749.0	30.25	768.3	10.9	—11.7	100	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.54	750.3	30.38	771.6	5.8	—14.6	87	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, M. A.
Port Dover, Ontario	29.58	751.3	30.33	770.4	17.1	— 8.3	83	Calm	0	0	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	H. Morgan.
Port Stanley, Ontario	29.90	751.8	30.30	769.6	15.5	— 9.2	98	NW	3	1.3	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	M. Payne.
Quebec, Quebec	30.00	762.0	30.37	771.4	— 1.0	—18.3	69	NW	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.79	756.7	30.33	770.4	—12.7	—24.8	80	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear	W. H. McIntyre.
St. John, N. B	30.03	762.7	30.21	767.3	4	—15.6	100	NW	8	3.6	.....	0	0	.....	.....	0.15	3.8	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.46	748.3	30.23	767.8	18.0	— 7.8	88	SE	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	Mrs. K. Stewart.
Stratford, Ontario	28.91	734.3	30.34	770.6	5.2	—14.9	93	Calm	0	0	.....	.....	Fog	.....	.....	0.05	1.3	Foggy	C. J. MacGregor, M. A.
Sydney, C. B	30.10	764.5	30.14	765.5	9.0	—12.8	94	Calm	0	0	.....	.....	10n	.....	.....	0.01	0.3	Light snow	T. C. Hill, C. E.
Toronto, Ontario	29.92	760.0	30.33	770.4	15.1	— 9.4	84	N	1	0.4	.....	5cs	0	.....	.....	0.040	1.02	Fair	Magnetic Observatory
Windsor, N. S	29.90	759.4	30.01	762.2	16.5	— 8.6	100	NW	1	0.4	.....	6k	0	.....	.....	0.15	3.8	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.15	740.4	30.32	770.1	10.4	—12.0	100	E	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	Professor Wolverton.
Yarmouth, N. S	30.15	765.8	30.22	767.6	19.7	— 6.8	77	NW	11	4.9	.....	4k	0	NW	.....	0.50	12.7	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.14	765.5	30.42	772.7	— 2	—18.9	100	W	.....	.....	.....	.....	10	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., Pilopital Maritime	.....	.....	30.12	765.0	14.0	—10.0	.....	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

076296

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.16	766.1	30.41	772.4	22	— 5.6	86	NW	4	1.8		0	0			0	0	Clear.	
Alpena, Michigan	29.46	748.3	30.14	765.5	25	— 3.9	87	S	4	1.8		0	0			0	0	Clear.	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	29.11	739.4	30.28	769.1	51	10.6	72	SE	7	3.1		10ck	Sm'e	Calm	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.42	772.7	30.43	772 9	28	— 2.2	77	N	4	1.8		2c	0	N		0	0	Clear.	
Augusta, Georgia	30.18	766.6	30.38	771.6	42	5.6	92	Calm	0	0			10s		Calm	0	0	Cloudy	
Baltimore, Maryland	30.40	772.1	30.46	7.3.7	31	— 0.6	89	N	1	0.4		0	Fog		Calm	0	0	Clear	
Barnegat, New Jersey	30.38	771.6	30.41	772.4	30	— 1.1	78	N	13	5.8		0	2s		Calm	0	0	Clear.	
Bismarck, Dakota	27.45	697.2	29.30	744.2	25	— 3.9	87	NW	10	4.5			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.49	723.6	29.78	756.4	61	16.1	94	SE	12	5.4			10s		SE	0	0	Cloudy	
Boise City, Idaho	26.82	682.2	29.78	756.4	25	— 3.9	94	NW	12	5.4			10s		Calm	0.16	4.1	Cloudy	
Boston, Massachusetts	30.23	767.8	30.40	772.1	25	— 3.9	87	W	1	0.4		0	0			0.01	0.3	Clear.	
Brackettville, Texas	28.75	730.2	29.78	756.4	61	16.1	94	SE	8	3.6			Haze		Calm	0.01	0.3	Hazy	
Breckenridge, Minnesota	28.31	719.1	29.31	744.5	22	— 5.6	86	S	32	14.3		0	8s		Calm	0	0	Cloudy	
Brownsville, Texas	29.95	760.7	30.00	762.0	68	20.0	90	S	12	5.4		0	0			0	0	Clear	
Buffalo, New York	29.58	751.3	30.33	770.4	23	— 5.0	86	SE	4	1.8			Fog		Calm	Inap.	Inap.	Foggy	
Burkes, Arizona																			
Burlington, Vermont	30.07	763.8	30.39	771.9	11	—11.7	80	S	5	2.2		5ck	0	W		0.01	0.3	Fair	
Cairo, Illinois	29.66	753.4	30.05	763.3	56	13.3	63	S	14	6.3			10s		S	0	0	Cloudy	
Campo, California	27.32	693.9	29.89	759.2	42	5.6	91	W	14	6.3			10n		SW	1.15	29.2	Light rain	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	47	8.3	85	NW	5	2.2		Haze	Haze			0	0	Hazy	
Cape Henry, Virginia	30.38	771.6	30.40	772.1	41	5.0	82	N	11	4.9		2cs	0	NE		0	0	Cloudy	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	46	7.8	92	NE	8	3.6		0	0			0	0	Clear.	
Cape May, New Jersey	30.41	772.4	30.44	773.2	32	0.0	79	NE	6	2.7		0	0			0	0	Clear.	
Castroville, Texas	29.17	740.9	29.86	758.4	63	17.2	94	SE	6	2.7			10s		Calm	0	0	Cloudy	
Cedar Keys, Florida	30.29	769.4	30.32	770.1	56	13.3	87	E	5	2.2		0	0				0	Clear.	
Charleston, South Carolina	30.30	769.6	30.36	771.1	50	10.0	79	Calm	0	0		0	0			0	0	Clear.	
Charlotte, North Carolina	29.48	748.8	30.33	770.4	39	3.9	91	N	3	1.3		2ck	Sm'e	NW	Calm	0	0	Smoky	
Chattanooga, Tennessee	29.47	748.5	30.31	769.9	38	3.3	91	Calm	0	0		2cs	Sm'e	SW	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	23.50	696.9	29.44	747.8	30	— 1.1	67	NW	28	12.5		0	0			0	0	Clear.	
Chicago, Illinois	29.28	743.7	29.98	761.5	41	5.0	57	SE	10	4.5			10s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.59	751.6	30.27	768.8	38	3.3	72	SE	3	1.3			10s		Calm	0	0	Cloudy	
Cleveland, Ohio	29.52	749.8	30.29	769.4	29	— 1.7	89	SE	7	3.1		1cs	0	Calm		0	0	Clear	
Coleman City, Texas	28.07	713.0	29.70	754.4	58	14.4	94	S	12	5.4			10s		S	0.06	1.5	Cloudy	
Columbus, Ohio	29.38	746.2	30.25	768.3	34	1.1	70	SE	4	1.8		0	Fog		Calm	0	0	Clear.	
Concho, Texas	27.96	710.2	29.60	751.8	61	16.1	82	S			4	0	5s		Calm	0	0	Fair	
Corsicana, Texas	29.47	748.5	29.93	760.2	65	18.3	89	S	8	3.6			10ks		Calm	0	0	Cloudy	
Davenport, Iowa	29.12	739.6	29.76	755.9	42	5.6	74	SE	8	3.6			10s		Calm	0	0	Cloudy	
Dayton, Washington T'y					22	— 5.6	86	Calm			0	0	0			0.05	1.3	Clear.	
Deadwood, Dakota	24.80	629.9			34	1.1	61	Calm	0	0		0	0			0	0	Clear.	
Decatur, Texas																			
Denison, Texas	29.04	737.6	29.81	757.2	63	17.2	94	S	18	8.0			10n		S	Inap.	Inap.	Light rain	
Denver, Colorado	24.30	617.5	29.52	749.8	37	2.8	33	W	7	3.1		0	0			0	0	Clear.	
Des Moines, Iowa	28.66	728.0	29.51	749.5	47	8.3	85	S	12	5.4			10n		Calm	0.03	0.8	Light rain	
Detroit, Michigan	29.52	749.8	30.22	767.6	29	— 1.7	89	SW	3	1.3		10cs	0	Calm		0	0	Cloudy	
Dodge City, Kansas	26.94	684.3	29.14	740.1	48	8.9	70	SW	24	10.7		2ck	8s	SW	W	0	0	Cloudy	
Dubuque, Iowa	29.02	737.1	29.72	754.9	39	3.9	91	E	12	5.4			10n		Calm	Inap.	Inap.	Light rain	
Duluth, Minnesota	28.95	735.3	29.64	752.8	28	— 2.2	88	NE	12	5.4			10s		NE	0	0	Cloudy	
Eagle Pass, Texas	29.21	741.9	29.94	760.5	52	11.1	86	SE	4	1.8			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.18	766.6	30.25	768.3	6	—14.4	64	NW	12	5.4		0	0			0.35	8.9	Clear	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	29.53	750.0	30.28	769.1	29	— 1.7	78	SE	10	4.5		2cs	0	Calm		0	0	Fair	
Escanaba, Michigan	29.27	743.4	29.96	761.0	24	— 4.4	61	SE	6	2.7			10s		S	0	0	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	47	8.3	92	Calm	0	0			10ks		S	0.24	6.1	Cloudy	
Fort Apache, New Mexico					27	— 2.8	77	Calm	0	0		0	2s		Calm	0	0	Fair	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.34	694.4	29.17	740.9	26	— 3.3	88	SW	3	1.3		10cs	0	Calm		0	0	Cloudy	
Fort Custer, Montana	26.38	670.0			35	1.7	70	NW	8	3.6			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.10	637.5	30.06	763.5	44	6.7	84	Calm	0	0		0	0			Ina	Inap.	Clear.	
Fort Gibson, Indian Ter	29.21	741.9	29.73	755.1	61	16.1	94	S	12	5.4			10s		Calm	0.16	4.1	Cloudy	
Fort Grant, Arizona	25.08	637.0	29.88	758.9	36	2.2	39	NW	5	2.2		0	5s		Calm	0	0	Fair	
Fort Griffin, Texas	28.55	725 2	29.78	756.4	61	16.1	88	S	22	9.8			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	26.76	679.7			31	— 0.6	79	SW	12	5.4			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.65	702.3	29.53	750 0	58	14.4	88	SW	18	8.0			10ks		SW	0.02	0.5	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.56	725.4	29.63	752.6	60	15.6	88	S	16	7.2			10s		Calm	0.10	2.5	Cloudy	
Fort Stevenson, Dakota	27.50	698.5			28	— 2.2	77	NW	7	3.1		8k	0	NW		0	0	Cloudy	
Fort Verde, Arizona					40	4.4	82	S			4		10n		S	0.05	1.3	Light rain	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.10	713.7	29.64	752 8	59	15.0	88	S	17	7.6			10ks		S	0	0	Cloudy	
Galveston, Texas	30.01	762.2	30.05	763.3	63	17.2	100	S	10	4.5			Fog		S	0.02	0.5	Dense fog	
Graham, Texas																			
Grand Haven, Michigan	29.38	746.2	30.05	763.3	30	— 1.1	78	SE	6	2.7			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.85	732.8	29.75	755.6	63	17.2	94	SE	18	8.0			10s		SW	0.02	0.5	Cloudy	
Indianapolis, Indiana	29.34	745.2	30.13	765.3	42	5.6	58	SE	4	1.8			10s		Calm	0	0	Cloudy	
Indianola, Texas	30.00	762.0	30.03	762.7	65	18.3	94	SE	12	5.4		2c	Haze	SW	Calm	0.02	0.5	Fair	
Jacksboro, Texas	28.63	727.2	29.72	754.9	62	16.7	88	SW	16	7.2			10s		SW	0.56	14.2	Cloudy	
Jacksonville, Florida	30.32	770.1	30.35	770.9	49	9.4	85	Calm	0	0		0	Fog		Calm	0	0	Clear.	
Keokuk, Iowa	29.06	738.1	29.66	753.4	47	8.3	62	S	14	6.3			10s		S	Inap.	Inap.	Threatening	
Key West, Florida	30.20	767.1	30.24	768.1	71	21.7	85	NE	12	5.4		0	0			0	0	Clear.	
Kittyhawk, North Carolina	30.37	771.4	30.40	772.1	46	7.8	84	NE	18	8.0		0	Haze		Calm	0	0	Clear.	
Knoxville, Tennessee	29.28	743.7	30.34	770.6	33.5	0.8	84	NE	2	0.9		5ck	Fog	W	Calm	0	0	Fair	
La Crosse, Wisconsin	28.93	734.8	29.67	753.6	40	4.4	65	S	12	5.4			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	28.00	660.4	30.15	765.8	36	2.2	71	Calm	0	0		0	0			0	0	Clear.	
Laredo, Texas	29.59	751 6	29.93	760.2	62	16.7	77	SE	2	0.9		0	0			0	0	Clear.	
Leavenworth, Kansas	28.71	729.2	29.51	749.5	56	13.3	94	S	14	6.3			10s		S	0.01	0.3	Cloudy	
Lewiston, Idaho					31	— 0.6	79	E	2	0.9		5cs	0	Calm		0	0	Fair	
Little Rock, Arkansas	29.61	752.1	29.97	761.2	61	16.1	94	S	14	6.3			10s		S	0.19	4.8	Cloudy	
Los Angeles, California	29.57	751.1	29.92	760.0	47.0	8.3	88	W	12	5.4		0	5s		Calm	0.47	11.9	Fair	
Louisville, Kentucky	29.61	752.1	30.18	766.6	42	5.6	66	S	1	0.4		5c	2s;8m	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.70	754.4	30.43	772.9	30	— 1.1	89	N	1	0.4		0	0			Inap.	Inap.	Clear	
Madison, Wisconsin	28.82	732.0	29.82	757.4	37	2.8	71	SE	16	7.2			10s		Calm	1.00	25.4	Cloudy	
Marquette, Michigan	29.17	740.9	29.89	759.2	31	— 0.6	79	SW	19	8.5		2c	0	SW		0	0	Clear.	
Mason, Texas	28.23	717.0	29.94	760.5	62	16.7	88	SW	14	6.3			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.73	755.1	30.07	763.8	58	14.4	76	SW	12	5.4			10s		Calm	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.19	741.4	29.93	760 2	35	1.7	70	SE	14	6.3			10s		Calm	0	0	Cloudy	
Mobile, Alabama	30.21	767.3	30.25	768.3	52	11.1	93	Calm	0	0		2c	Fog	Calm		0	0	Clear.	
Montgomery, Alabama	30.05	763.3	30.29	769.4	50	10.0	93	SE	6	2.7		8c	0	Calm		0	0	Fair	
Morgantown, West Virginia	29.31	744.5	30.36	771.1	31	— 0.6	79	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	28.51	597.1	29.87	758.7	— 3	—19.4	83	NW	36	16.1		0	2ks		NW	0.16	4.1	Clear	
Nashville, Tennessee	29.62	752.3	30.18	766.6	41	5.0	74	Calm	0	0		0	5s		Calm	0	0	Fair	
New Haven, Connecticut	30.28	769.1	30.41	772.4	30	— 1.1	68	NW	5	2.2		0	0			0.02	0.5	Clear	
New London, Connecticut	30.36	770.9	30.40	772.1	28	— 2.2	77	W	2	0.9		0	Haze		Calm	0.02	0.5	Clear	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	59	15.0	87	SE	8	3.6		0	2s		Calm	0	0	Fair	
Newport, Rhode Island	30.33	770.4	30.38	771.6	31.5	— 0.3	74	NW	6	2.7		0	0			0.04	1.0	Clear	
New River, North Carolina					45	7.2	75	Calm			0	0	Fog		Calm			Light fog	
New York, New York	30.24	768.1	30.43	772.9	29	— 1.7	88	W	3	1.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.34	770.6	30.41	772.4	38	3.3	91	N	4	1.8		0	Fog		Calm	0	0	Dense fog	
North Platte, Nebraska	26.62	673.6	29.07	738.4	31	— 0.6	53	NW	10	4.5		8c	Haze	Calm	Calm	0	0	Cloudy	
Olympia, Washington Ter	30.02	762.5	30.06	763.5	28.5	— 1.9	94	SE	2	0.9		0	0			0	0	Clear	
Omaha, Nebraska	28.29	718.6	29.35	745.5	49	9.4	93	SE	16	7.2			10n		S	0.10	2.5	Light rain	
Oswego, New York	30.03	762.7	30.37	771.4	21	— 6.1	100	SE	5	2.2		0	Fog			0.09	2.3	Clear	
Pembina, Dakota	28.43	722.1	29.29	744.0	20	— 6.7	100	Calm	0	0			10s		Calm	0	0	Cloudy	
Pensacola, Florida	30.25	768.3	30.28	769.1	56	13.3	94	E	8	3.6		2c	Haze	W	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.38	771.6	30.43	772.9	30	— 1.1	68	N	10	4.5		2c	Haze	NW	Calm	0	0	Fair	
Phœnix, Arizona	28.78	731.0	30.62	777.7	46	7.8	62	E	4	1.8		5c	0	E		0.20	5.1	Fair	
Pike's Peak, Colorado	17.20	436.9	29.41	747.0	0	—17.8	70	SW	4	1.8		0	2s		SW	0.06	1.5	Clear	
Pilot Point, Texas	29.18	741.1	30.02	762.5	48	8.9	85	SE	24	10.7		8k	2s	SE	S	Inap.	Inap.	Cloudy	
Pioche, Nevada	23.60	599.4	29.38	746.2	28	— 2.2	100	SE	10	4.5			10n		Calm	0.12	3.3	Light snow.	
Pittsburg, Pennsylvania	29.51	749.5	30.37	771.4	31	— 0.6	79	Calm	0	0		0	Fog		Calm	0	0	Foggy	
Port Huron, Michigan	29.52	749.8	30.22	767.6	26	— 3.3	88	S	8	3.6		10cs	0	Calm		0	0	Cloudy	
Portland, Maine	30.26	768.6	30.31	769.9	12	—11.1	80	NW	2	0.9		0	Fog			0.20	5.1	Clear	
Portland, Oregon	30.04	763.0	30.12	765.0	54.5	1.4	85	S	4	1.8			10s			0.09	2.3	Cloudy	
Portsmouth, North Carolina					49	9.4	78	N	8	3.6		0	0			0	0	Clear	
Prescott, Arizona	24.55	623.6	29.91	759.7	36	2.2	71	S			2		10n		S	0.01	0.3	Light snow.	
Punta Rassa, Florida	30.20	768.6	30.27	768.8	63	17.2	89	NE	13	5.8		0	0			0	0	Clear	
Red Bluff, California	29.57	751.1	29.94	760.5	37.5	3.1	53	NW	13	5.8		0	1s		NW	0.06	1.5	Clear	
Rio Grande City, Texas	29.76	755.9	29.98	761.5	64	17.8	89	S	4	1.8		0	2s		Calm	0	0	Clear	
Rochester, New York	29.66	753.4	30.32	770.1	22	— 5.6	72	SW	5	2.2		0	Sm'e		Calm	0	0	Smoky	
Roseburg, Oregon	29.57	751.1	30.17	766.2	26	— 3.3	100	Calm	0	0			10s		Calm	0.18	3.3	Cloudy	
Sacramento, California	29.87	758.7	29 95	760.7	57.5	8.1	71	Calm	0	0		0	5s		Calm	0.01	0.3	Fair	
St. Louis, Missouri	29.32	745.0	29.89	759.2	49	9.4	64	S	16	7.2			10ks		S	0	0	Cloudy	
St. Paul, Minnesota	28.66	728.0	29.48	748.8	39	3.9	72	S	6	2.7			10s		S	0	0	Cloudy	
Salt Lake City, Utah	25.25	641.3	29.58	751.3	34	1.1	70	NE	2	0.9			10s		Calm	0.02	0.5	Threatening	
San Antonio, Texas	29.82	744.7	29.90	759.4	63	17.2	100	S	5	2.2			10s		Calm	0.03	0.8	Cloudy	
San Diego, California	29.96	761.0	30.04	763.0	51	10.6	86	SW	4	1.8		0	2ks		Calm	0.54	13.7	Fair	
Sandusky, Ohio	29.54	750.3	30.26	768.3	33	0.6	79	S	11	4.9		0	Haze		Calm	0	0	Clear	
Sandy Hook, New Jersey	30.40	772.1	30.43	772.9	32	0.0	79	W	12	5.4		0	Haze		Calm	0	0	Clear	
San Francisco, California	29.94	760.5	30.00	762.0	42	5.6	54	NW	16	7.2		1k	0	NW		0.16	3.8	Clear	
Santa Fé, New Mexico	28.12	687.2	29.66	753.4	14	—10.0	46	SW	8	3.6			10s		SW	0	0	Cloudy	
Savannah, Georgia	30.28	769.1	30.38	771.6	49	9.4	85	Calm	0	0		0	Fog		Calm	0	0	Clear	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	64	17.8	94	S	9	4.0			10s		Calm	0	0	Cloudy	
Silver City, New Mexico																			
Smithville, North Carolina	30.36	771.1	30.39	771.9	46	7.8	84	N	5	2.2		1k	Fog	Calm		0	0	Clear	
Socorro, New Mexico	25.22	640.6	29.29	744.0	38	3.3	54	S	4	1.8		0	0			0	0	Clear	
Springfield, Illinois	29.19	741 4	29.86	758.4	48	8.9	49	SE	24	10.7			10ks		SW	Inap.	Inap.	Threatening	
Springfield, Massachusetts	30.26	768.6	30.40	772.1	20	— 6.7	70	Calm	0	0		0	Fog			Inap.	Inap.	Light fog	
Stockton, Texas	26.89	683.0	29.89	759.2	45	7.2	39	SW	2	0.9			10s		Calm	Inap.	Inap.	Threatening	
Thatcher's Island, Mass	30.34	770.6	30.40	772.1	25	— 3.9	62	W	9	4.0		0	0			0.17	4.3	Clear	
Toledo, Ohio	29.50	749.3	30.22	767.6	32	0.0	69	E	8	3.6		1c	0	SW		0	0	Clear	
Tucson, Arizona	27.50	698.5	30.05	763.3	43	6.1	83	SW	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.70	754.4	30.23	767.8	21	— 6.1	71	SE	2	0.9		0	0			0	0	Clear	
Uvalde, Texas	29.02	737.1	29.84	757.9	61	16.1	94	SE	4	1.8			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.87	758.7	30.13	765.3	60	15.6	94	S	8	3.6			10s		S	0	0	Cloudy	
Virginia City, Montana	23.70	602.0	29.18	741.1	21	— 6.1	86	Calm	0	0			10n		Calm	Inap.	Inap.	Light snow.	
Visalia, California	29.57	751.1	29.95	760.7	38.5	3.6	91	N	6	2.7			10s		Calm	0.27	6.9	Cloudy	
Washington, D. C	30.32	770.1	30.44	773.2	26.5	— 3.1	94	Calm	0	0			Fog		Calm	0	0	Light fog	
Wickenburg, Arizona					43	6.1	92	S			1		10s		S	Inap.	Inap.	Cloudy	
Wilmington, North Carolina	30.30	769.6	30.38	771.6	44	6.7	84	Calm	0	0		0	Fog		Calm	0	0	Clear	
Winnemucca, Nevada	25.24	641.1	29.60	751.8	28	— 2.2	88	SW	11	4.9			10s		Calm	0.06	1.5	Cloudy	
Wood's Holl, Massachusetts	30.38	770.4	30.37	771.4	31	— 0.6	68	NW	16	7.2		0	0			0.03	0.8	Clear	
Yankton, Dakota	28.08	713.2	29.33	745.0	42	5.6	59	S	5	2.2			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.78	756.4	29.94	760.5	42	5.6	83	SE	6	2.7		0	0			0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia																			Thomas Herran.
Fayetteville, Arkansas																			J. B. Gordon.
Havana, Cuba, W. I	30.11	764.8	30.16	766.1	74	23.3	76	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I					73	22.8	82	Calm	0	0		2ck	2cs	Calm				Fair	James Gall.
Navassa, W. I	30.00	762.0	30.08	764.0	77	25.0	73												F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	80	26.7	82	E			2	5k	8ks	E		0.470	11.94	¾ Cloudy	C. J. Hering.
Puerto Berrio, U. S. Colombia	29.44	747.8	29.99	761.7	82	27.8	68	Calm			0		8k			0	0		Francesco J. Cisneros.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.03	762.7	30.09	764.3	—27.0	—32.8		W	6	2.7		0	0s		W	0.04	1.0	Fair	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.98 in., or 75.2 mm.; Campo, 2.97 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer
Navy Yard, Pensacola, Fla.	30.22‡	767.6‡			58	14.4	88	NE	5	2.2			0			0	0			Clear	
Navy Yard, Portsmouth, N.H.	30.31‡	769.9‡			38	3.3	81	W	1	0.4			0							Clear.	
Naval Hospital, Yokohama, Japan	30.11‡	764.8‡			44.5	6.9	84	N			2		10s		NE	Slight	Slight			Overcast	
Adams, Pichilinque Bay, Mexico*	30.19‡	766.8‡			64	17.8	73	NE			0		10		NE			Smooth		Cloudy	
Colorado, New York, N. Y.	30.37‡	771.4‡			29	— 1.7		W	4	1.8			0			0	0			Clear.	
Constitution, N. 10° 05′, W. 79° 21′	29.98‡	761.5‡			78	25.6	78	NNE			5		6		NE			Mod'ate	NE	Fair	
Enterprise, Villafranca, France	29.86‡	758.4‡			54	12.2	80	E			2		10		ESE			Long		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.42‡	772.7‡			40	4.4	91	NE	4.8	2.1			2		NE	0	0			Clear	
Independence, Mare I'd, Navy Yard, Cal.	29.97‡	761.2‡			39	3.9	82	WNW	4.8	2.1			1		SW	0.033	0.84			Clear	
Kearsarge, Shephard's Harbor, Chiriqui	30.04‡	763.0‡			74	23.3	86	SW			0–1		10		SW			Smooth		Light rain	
Lackawana, Navy Yard, Mare I'd., Cal.†	30.37‡?	771.4‡?			46	7.8	69	N			1		0							Clear	
Marion, S. 32° 30′, W. 48° 55′	29.90‡	759.4‡			76	24.4	68	NE			1		0			0	0	Smooth		Clear	
Michigan, Erie, Pa.	30.26‡	768.6‡			28	— 2.2	66	S			2		2		S					Light clouds	
Monocacy, Shanghai, China	30.31‡	769.9‡			39	3.9	73	NE			1		5?		Calm					Cloudy?	
New Hampshire, Port Royal, S. C.	30.38‡	771.6‡			52	11 1	93	Calm	0	0			2		Calm	0	0			Fair	
Nipsic, N. 12° 44′, W. 62° 37′	30.06‡	763.5‡			78	25.6	78	ENE			4		2		ENE			Light	ENE	D. clouds	
Onward, Callao, Peru †.	29.91‡	759.7‡			69	20.6	85	Calm			0		5					Long	W	Fair	
Palos, Tientsin, China	30.40‡	772.1‡			32	0.0	89	Calm			0		0							Clear	
Passaic, Washington, D. C.	30.38‡	771.6‡			27	— 2.8	88	Calm			0		5							Fair	
Pensacola, Callao, Peru	29.88‡	758.9‡			68	20 0	100	E			1		2					Smooth		D. clouds	
Powhatan, Off Norfolk, Va.	30.37‡	771.4‡			41	5.0	82	N			0–1		0			0	0			Clear	
Quinnebaug, Leghorn, Italy	29.85‡	758.2‡			58	14.4	88	S			4		10		SW					Raining	
Ranger, Mare I'd, Navy Yard, Cal.	29.91‡	759.7‡			45	7.2	84	W			3		2		Calm					Fair	
Richmond, Hong-Kong, China	30.04‡	763.0‡			60	15.6	94	E			1–2		10					Smooth		Sprinkling	
Rio Bravo, Brownsville, Texas †	30.15‡	765.8‡			67	19.4	100	SSE	2	0.9		2	5	Calm	S	0	0			Fair	
Santee, Annapolis, Md	30.44‡	773.2‡			30	— 1.1		W			1		2		W	0	0			Hazy	
Shenandoah, Montevideo, Uruguay	29.96‡	761.0‡			66	18.9	74	ESE			1		0					Smooth		Clear	
St. Louis, League Island, Pa.	30.39‡	771.9‡			28	— 2.2		NNE	7	3.1			2		NNW	0	0			Misty	
Swatara, N. 35° 22′, W. 11° 44′	30.45‡	773.4‡			59	15.0	76	N			3		2		N			Long	NW	Clear	
Tennessee, Norfolk, Va.	30.30‡	769.6‡			42	5.6	88	NNE	4	1.8						0	0			Hazy	
Trenton, Toulon, France	29.77‡	756.1‡			57	13.9	69	W			3		2			15hours	15hours			Clear	
Tuscarora, La Libertad, San Salvador	30.00‡	762.0‡			78	25.6	67	NNE			1		0			0	0	Smooth		Clear	
Wabash, Boston, Mass.	30.38‡	771.6‡			25	— 3.9	87	Calm	0	0						0	0			Foggy	
Wachusett, Montevideo, Uruguay.†	30.47‡	773.9‡			70	21.1	75	SSE			4		10		S;E			Rough	S	Threatening	
Wyoming, Naples, Italy	30.03‡	762 7‡			54	12.2	93	Calm			0		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as *toward*, *instead of from*; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.126 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trooke																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 52° 54′, W. 29° 50′ †	28.41‡	721.6‡	33	0.6		W			10		10		W			Very Heavy	W	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian, N. 41° 31′, W. 66° 58′ *	30.31‡	769.9‡	36	2.2	71	NW			5		8		NNW	3 hr's	3 hr's	Chopping	N	Clear	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Locust Point, Md.	30 26‡	768.6‡	38	3.3		E			1		2		ENE					Clear	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent, N. 40° 03′, W. 29° 58′	29.11‡	739.4‡	48	8.9	85	NW			0		8		NW	Blank	Blank	Heavy	NW	Cloudy	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 24° 09′, W. 110° 19′ †	30.23‡	767.8‡				Calm			0		0							Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undütsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer																			S. Risius.
S. S. Ohio, G. Meyer																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 32° 25′, E. 122° 37′ †	30.04‡	763.0‡	69	17.2	57	NW			4		5		NW			Smooth		Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal. †	29.98‡	761.5‡	48	8.9		NW			5–6		ks		NW	Slight	Slight	Mod'ate Smooth	NW	Raining	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal. †	30.00‡	762.0‡	46	7.8		NNW			5		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 16° 10′, W. 98° 40′....†	30.011	762 2‡	80	26.7	81	E	.....	.....	2	.....	2	.....	Calm	0	0	Light	SSW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann. N. 38° 47′, W. 123° 45′...†	30.02‡	762.5‡	46	7.8	.....	NW	.....	.....	6	.....	5	.....	NW	.....	.....	Rough	NW	Hail-squalls	E. Polemann.
S. S. City of Panama, M. Connolly. San Blas, Mexico.....†	29.89‡	759.2‡	62	16.7	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Smooth	W	Hazy.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury N. 28° 40′, E. 126° 26′....†	30 10‡	764.5‡	57	13.9	75	NE	.....	.....	6	.....	10	.....	.....	0	0	Mod'ate	NE	Overcast.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths N. 46° 44′, W. 124° 45′....†	30.05‡	763.3‡	45	7.2	.....	NW	.....	.....	4	.....	2	.....	NW	0	0	Heavy	NW	Clear.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Zalandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Farmer & W. Apetan.
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NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 41° 28′, E. 92° 20′.....*	30.31‡	769.9‡	55	12.8	.....	ESE	.....	.....	4	.....	2	.....	ESE	.....	.....	Long	SW	Fair...	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 30° 28′ W. 70° 55′.....	30.41‡	772 4‡	68	20.0	.....	N	.....	.....	5	.....	1	.....	N	Blank	Blank	Rough	N	Clear.	.....
Iron Cross, W. Randall, N. 36° 50′, W. 17° 00′..	30 43‡	772.9‡	58.8	14.9	70	WSW	.....	.....	5	.....	8	.....	WSW	0	0	Long	WNW; NW	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

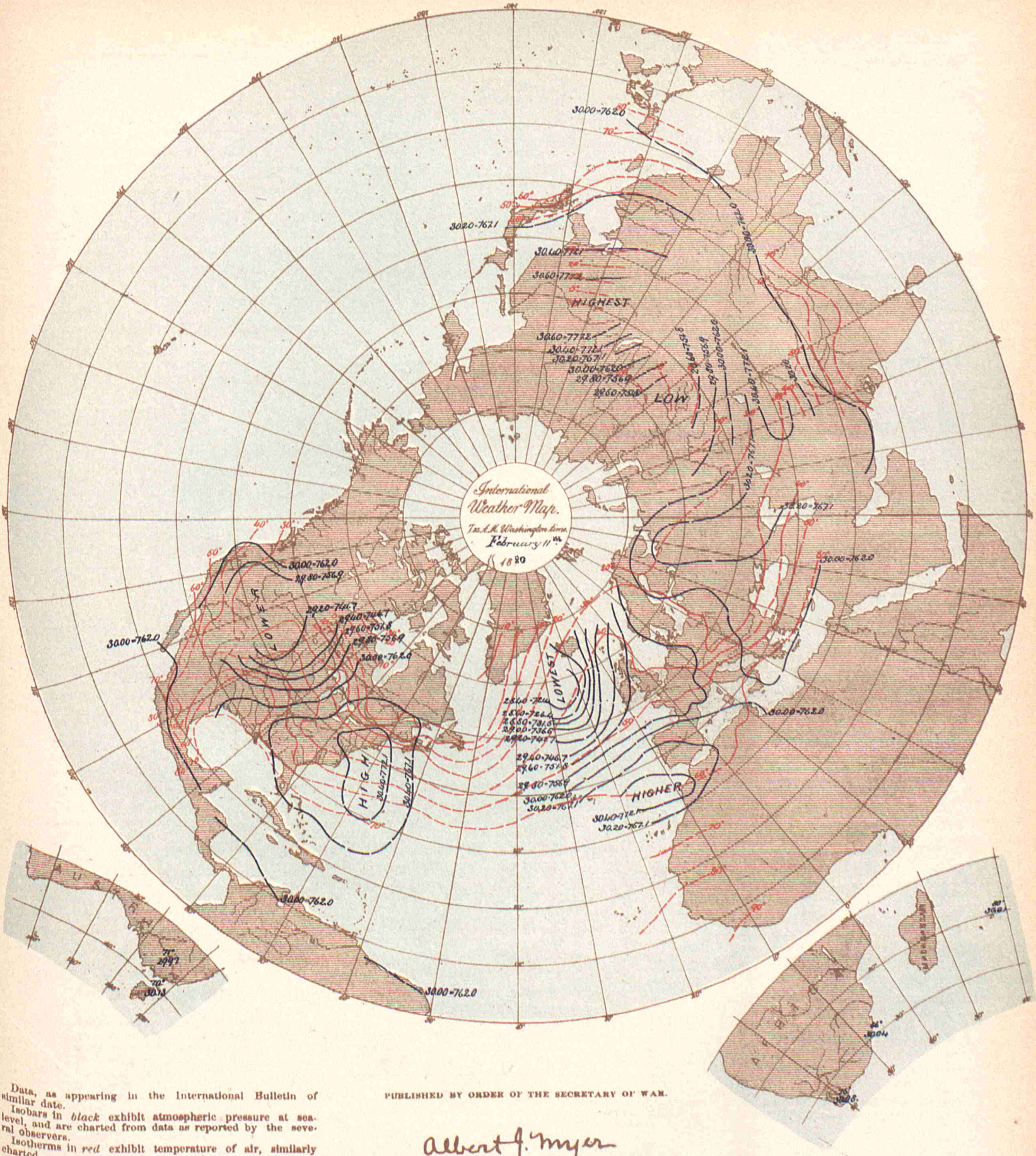
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 12, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.48	774.3	.....	.....	.....	NE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair.	
Nemours	.....	.....	30.38	771.6	59.0	15.0	84	WNW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.25	768.4	59.4	15.2	58	WNW	.....	.....	6	.....	6	.....	.....	0.322	8.2	Cloudy.	Touriliere.
La Calle	.....	.....	30.17	766.2	56.7	13.7	64	NW	.....	.....	3	.....	7	.....	.....	0.618	15.7	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.11	764.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.29	769.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.21	767.3	39.7	4.3	97	W	.....	.....	1	.....	10	.....	.....	0.441	11.2	Covered	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.20	768.6	51.1	10.6	15	NNW	.....	.....	5	.....	6	.....	.....	0	0	Cloudy	Bertrand.
Biskra	.....	.....	30.18	766.5	65.3	17.4	43	WNW	.....	.....	5	.....	5	.....	.....	Inap.	Inap.	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.45	748.1	30.02	762.6	39.9	4.4	97	E	.....	.....	2	.....	10	.....	.....	0.764	19.4	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.28	743.8	30.09	764.2	32.4	0.2	78	SE	0.2	0.1	.....	.....	2	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.14	740.1	30.06	763.4	35.6	2.0	85	.....	.....	.....	.....	.....	10n	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.77	730.8	30.08	763.9	33.1	0.6	30	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.64	727.6	30.13	765.4	37.6	3.1	76	SSE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.70	728.9	30.11	764.8	29.7	—1.3	90	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	The Staff.
Lemberg	29.02	737.2	30.05	763.3	35.1	1.7	69	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.01	736.6	30.02	762.5	44.6	7.0	98	NW	.....	.....	1	.....	10	.....	.....	0.551	14.0	.....	I.R.Hydrographic Office.
Szathmar	29.64	752.9	30.08	764.0	44.2	6.8	89	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.76	755.8	30.04	763.1	42.8	6.0	82	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.94	760.5	30.04	763.1	46.9	8.3	96	Calm	.....	.....	0	.....	10	.....	.....	0.760	19.3	Rain & fog	P. Busin.
Vienna	29.35	745.6	30.09	764.2	33.1	0.6	87	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau
Brussels	29.72	754.9	29.93	760.2	43.3	6.3	72	SSW	.....	.....	4	.....	10	.....	SW	0.114	2.9	.....	Royal Observatory.
Furnes	29.80	758.5	29.89	759.1	40.5	4.7	94	SW	.....	.....	2	.....	10	.....	.....	0.069	1.5	Light rain	M. E. de Cae.
Maeseyck	29.84	758.0	29.97	761.2	43.0	6.1	85	S	.....	.....	4	.....	7	.....	.....	0.051	1.3	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.48	748.8	29.58	751.3	43.3	6.3	.....	S	10	4.5	.....	.....	4	.....	.....	Blank	Blank	Misty	W. Boswell.
Ardrossan	29.57	751.1	29.59	751.6	43	6.1	.....	SSW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	G.Carrick.
Armagh, (Observatory)	29.37	746.0	29.61	752.1	41.9	5.5	.....	SSW	20	8.9	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.72	754.9	43.3	6.3	.....	WSW	20	8.9	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.18	741.1	29.70	754.4	44.8	7 1	.....	SW	7	3.1	.....	.....	9	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.70	754.4	45.5	7.5	70	SW	.....	.....	3	.....	5	.....	.....	0.10	2.5	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	30.02	762.5	30.05	763 3	78	25.6	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.70	754.4	29.80	756.9	51.4	10.8	.....	SW	.....	.....	1	.....	10k	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.78	756.4	48.0	8.9	.....	W	.....	.....	0-1	.....	5	.....	.....	.....	.....	D. clouds	John McLaren.
Cheltham (School M. E.)	29.72	754.9	29.85	758.2	45.6	7.6	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	F. Magauran, Q. M. S'gt., R.E
Donaghadee	29.58	751.3	29.62	752.3	45	7.2	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.80	756.9	29.83	757.7	44	6.7	.....	W	.....	.....	5	.....	7	.....	.....	.....	.....	Misty	J. Costello.
Falmouth (Observatory)	29.72	754.9	29.95	760.7	48.0	8.9	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Rain & hail	The Staff.
Fort Napier, Natal	27.73	704.3	29.91	759.7	79.8	26.6	.....	E	.....	.....	2	.....	6	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs,A.H.C
Free Town, Sierra Leone	29.62	752.3	29.85	758.2	88	31.1	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.60	751.8	40.5	4.7	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	M O'Donaghue.
Gibraltar, Mediterranean.§	30.34	770.6	30.39	771.9	58.9	14.9	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Corp'l S. Cordue,A.H.C.
Glasgow, (Observatory)	29.40	746.7	29.60	751.8	42.3	5.7	.....	SW	.....	.....	3	.....	10k	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.78	756.4	29.79	756.7	42	5.6	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.66	753.4	29.83	757.7	48.7	9.3	.....	WSW	.....	.....	.....	.....	6	.....	.....	.....	.....	D clouds	The Staff, for G.B.Airy.
Guernsey	29.85	758.2	30.07	763.8	48.5	9.2	.....	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Dr.S.E Hoskins, F.R.S.
Helston	30.10	764.5	30.22	767.6	48	8.9	.....	W	.....	.....	4	4c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.62	752.3	29.70	754.4	45	7.2	.....	SW	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.71	754.6	30.01	762.2	47.2	8.4	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew (Observatory)	29.80	756 9	29.83	757 7	49.4	9.7	.....	W	11	4.9	.....	.....	6	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester (Museum)	29.50	749.3	29.76	755.9	48.1	8.9	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.07	763.8	30.15	765.8	61	16.1	.....	NE	.....	.....	.....	8ck	.....	.....	.....	.....	.....	Overcast	A. King.
Nairn	29.39	746.5	29.49	749.0	45	7.2	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, Bahamas	.....	.....	30.18	766.6	73.2	6.3	.....	SE	.....	.....	.....	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.60	751.8	29.79	756.7	50.2	10.1	.....	W	.....	.....	2	8c	.....	W	.....	0.024	0.61	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.23	742.4	29.76	755.9	48.0	8.9	.....	SW	.....	.....	4-5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.58	751.3	29.84	757.9	49	9.4	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.83	757.7	29.90	759.4	47.7	8.7	.....	W	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	John Merrifield.
*Roche's Point	29.72	754.9	29.80	756.9	44	6.7	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
St. Ann's Head	29.64	752.8	29.80	756.9	45	7.2	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.47	748.5	41.9	5.5	.....	S	27	12.1	.....	.....	1	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.08	764.0	30.15	765.8	44.6	7.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Serg't W. H. Lane.
Sheffield	29.45	748.0	29.73	755.1	47.9	8.8	.....	SW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	W. F. Cooper.
Silloth Rectory	29.62	752.3	29.65	753.1	45.4	7.4	73	W	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.71	754.6	45.5	7.5	.....	SW	14	6.3	.....	.....	7	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.61	752.1	29.83	757.7	49.7	9.8	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.82	757.4	29.88	758.9	50	10.0	.....	.....	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.74	755.4	29.76	755.9	45.4	7.4	.....	W	25	11.2	.....	.....	10	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.79	756.7	29.83	757.7	87.5	30.8	43	NNW	6.4	2.9	.....	4	2cs	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.62	650.7	.....	.....	92	33.3	.....	WNW	.....	.....	.....	2k	5k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.74	679.2	.....	.....	91	32.8	.....	W	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.12	765.0	70.0	21.1	73	SW	.....	.....	3	.....	5k	.....	.....	0	0	Cloudy	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.61	752.1	45.1	7.3	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	760.9	78.8	26.0	71	ESE	17 0	7.6	.....	1	3	.....	ESE	0.67	17.0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.71	754.6	29.80	756.9	69.3	20.7	68	SE	3	1.3	.....	.....	3	.....	.....	0.05	1.3	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.32	744.7	46	7.8	.....	SSW	.....	.....	8	5	3	W	.....	0.6	15.	.....	.....
North Unst, Shetland Is	.....	.....	29.56	750.8	.....	.....	.....	SSE	.....	.....	7	10	10	.....	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.																Sea or swell. Height scale 0 9	Sea or swell. Direction from		
City of Agra, S. 38° 06′ W. 30° 38′	.....	.....	29.95‡	760.7‡	68.2	20.1	.....	N	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	Capt. Thos. Young.
City of Cashmere, S. 20° 15′, W. 36° 10′	.....	.....	30.05‡	763.3‡	80.8	27.1	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Bute Fylde, N. 39° 40′, W. 63° 05′	.....	.....	30.45	773.4	63	17.2	.....	ESE	.....	.....	4	.....	4	.....	.....	4	NW	D. clouds	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony	.....	.....	29.84‡	757.9‡	72	22.2	.....	E	.....	.....	7	.....	0	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell
Barque Royal Alexandra, S. 25° 33′ E. 57° 04′	.....	.....	30.09‡	764.3‡	78	25.6	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Oommewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE FAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE FAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.25	666.7	29.97	761.2	63.5	17.5	80	NE			3		3d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.7	29.96	760.9	32.7	0.4	90	SE			6		10					Snowing	
Faröe	29.81	757.1	29.83	757.6	33.3	0.7	100	SE			4		10					Foggy	
Godthaab (Greenland)	29.41	747.1	29.46	748.2	—12.1	—24.5		NNW			5		10					Snowing	
Stykkisholm (Iceland)	28.32	719.3	28.36	720.4	37.0	2.8	86	SE			8		10					Raining	
Thorshavn (Faröe)	29.24	742.8	29.28	743.7	44.6	7.0	89	SE			8		7						
Vestervig	29.75	755.6	29.86	758.4	31.8	— 0.1	96	ENE			4		10					Rain & snow	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.8	30.03	762.8	43.7	6.5	94	SW			1		10		NW	0.047	1.2	Foggy	Collignon, Director.
Amiens, Normal School	29.84	758.0	29.96	760.9	41.4	5.2	97	SSW			1		10		Calm	0.087	2.2	Covered	Vaillant, Director.
Arras, Engin'r School	29.68	753.9	29.95	760.6	38.3	3.5	97	SW			2		10		SW	0.224	5.7	Raining	Klein, Commandant.
Avignon, Normal School	30.02	762.7	30.11	764.7	55.4	13	48	NNW			2		0			0.031	0.8	Very clear	Giraud, Director.
Bar-sur-Seine	29.51	749.6	30.08	764.0	46.2	7.9	66	SW			1		8kn		SW	0.098	2.5	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.74	755.3	30.01	762.3	42.3	5.7	93	S			1		10		WSW	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.20	741.8	30.13	765.2	39.7	4.3	96	S			1		10		S	0.067	1.7	Covered	A. Carré, Director.
Bordeaux	29.91	759.8	30.11	764.8	50.7	10.4	96	W			1		10			0.016	0.40	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.30	744.1	30.21	767.3	42.1	5.6	85	S			1	8c			S	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.54	750.4	30.12	765.0	46.3	7.4	86	SSE			3		10sn		SSE	0.177	4.5	Covered	M. Gence, Director.
Brest, Naval Observatory	29.83	757.6	30.07	763.8	53.6	12.0	78	WSW			2		3		W	0.138	3.50		Ch. de Rermarce, Dir.
Caen, Normal School	29.87	758.0	29.94	760.5	48.2	9.0	89	W			1		5	W	W	0.055	1.4	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.73	755.2	30.16	766.0	51.4	10.8	68	W			1		10	W	W	0.177	4.5	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.99	761.7	45.7	7.6	94	SW			1		5	NE	NE	0	0	Cloudy	Jadot, Director
Chartres, Normal School	29.32	744.7	29.94	760.5	40.1	4.5	91	S			1		10	E		1.18	30.	Light rain	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.72	729.5	30.10	764.6	47.5	8.6	59	W			4		10			0	0		Alluard, Director.
Commercy, Normal School	29.20	741.7	30.09	764 2	41.0	5.0	78	W			2		5kn	W	W	0.020	0.5	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.97	735.7	30.11	764.7	49.6	9.8	70	NW			2		5		NW	0.106	2.7		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.45	747.9	30.21	767.3	45.0	7.2	94	NNW			1	ck			SE	0.480	12.2		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.91	759.6	30.12	765.1	52.9	11.6	87	WNW			3		5		WNW	0.157	4.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.06	763.5	43.7	6.5	97	W			2		10		WSW	0.098	2.5	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.4	30.13	765.3	42.6	5.9	77	NW			1		5ks	SE	SW	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.98	761.6	30.10	764.4	51.4	10.8	70	WSW			3		8		W	0.146	3.7	¾ clouded	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.51	749.5	30.14	765.5	47.7	8.7	61	NNE			1	5c			W	0	0	Fair	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.78	756.5	30.06	763.4	53.2	11.8	48	WNW			2		2		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	29.00	736.7	30.07	763.7	39.0	3.9	8	SW			1		5			0	0	Cloudy	Barbier, Director.
Mont-Louis	2 .85	631.1	30.16	766.1	36.7	2.6	66	W			3		9			0.091	2.3		M. Cave, for Dr. Fines.
Nice	30.00	762.1	30.04	763.0	55.4	13.0	81	SE			3		5	NE	SE	0.622	15.8	Clouay	Capt. Boissière, Director.
Nismes, Normal School	29.88	759 0	30.09	764.3	56.1	13.4	68	N			1		5		N	0.04	1.	Cloudy	M. Boyer, Director.
Perpignan	30.05	763.2	30.15	765.9	55.8	13.2	43	NW	18.6	8.3			2		NNW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.48	571.0			26.2	— 3.8							10		NNW	0.634	16.1	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.03	737.4	30.16	766.1	45.7	7.6	84	S			1		1	SE	SE	0	0	Clear	M. Tallieu
Puy de Dome (Summ') Obs	25.10	637.6			28.6	— 1.9	98	W			4		Fog			0	0		Alluard, Director.
Rochefort, Naval Obs'y	30.11	764.8	30.14	765.6	51.8	11.0	93	W			2		2	W	W	1.02	26.	¾ covered	Lt. E. Decante, Director
Rouen, Normal School	29.88	758.9	29.97	761.1	45.0	7.2	88	SW			1		10		SW	0.016	0.4	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.5	30.01	762.2	51.4	10.8	70	WSW			4		1		WSW	0.108	2.75	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.84	758.0	30.01	762.2	40.3	4.6	97	S			1		10		SSW	0.094	2.4	Covered	F. Renou, Director.
Tarbes, Normal School	29.05	737.8	30.10	766.9	46.4	8	86	W			1					0.000	0.000		T. Huguet, Director
Toulouse, Observatory	29.50	749.3	30.23	767.8	50.5	10.3	66	WNW			1		10			0	0	Covered	B. Bailland, Dir.
Tours	29.83	757.7	30.03	762 7	45.0	7.2	94	W			1		10		W	0.024	0.6	Covered	M. de Tastes.
Versailles, Observatory	29.50	749.2	29.99	761.8	40.6	4.8	93	SW			1		10			0.087	2.20	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.45	747.9	30.17	766.4	49.1	9.5	94	SE			1		5		NW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	762.0	30.03	762.7	75.2	24.0										0.16	4.		L'Abbé Marchést
Paris, Montsouris Obs'y	29.72	754.9			39.6	4.2	98	S			2		10			0.075	1.9	Raining	Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.37	771.4	30.40	772.1	34.7	1.5	83	NNW	2.5	1.1			10			0	0	Covered	Marc Dechevrens, J.S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Turbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.17	741.0	30.04	763.0	38.7	3.7	82	S			4		8ks	SW		0	0		Prof. Dr. Hoh.
Berlin	29.80	756.9	29.98	761.4	41.5	5.3	80	SE			1		7	S		0.098	2.5		Prof. Dr. Arndt.
Breslau	29.52	749.7	30.05	763.2	35.6	2.0	82	SE			2		7			0	0		Royal University Obs'y
Carlsruhe	29.62	752.4	30.07	763.6	40.3	4.6	97	S			2		10	SW		0.169	4.3		Albert Senz.
Cassel	29.36	745.7	29.97	761.1	40.3	4.6	90	SW			2		10	S		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.73	755.2	30.11	764.8	41.7	5.4	71	SW			1		8			0.024	0.6		Physical Society.
Friedrichshafen	28.62	726.9	30.10	764.5	39.6	4.2	76	SW			1		3	SSW		0.185	4.7		Chief Telegrapher Wilhelm.
Hamburg	29.84	758.0	29.91	759.8	36.9	2.7	93	SW			3		10			0.087	2.2	Light rain...	Dr. Reinhold Kleeman.
Kiel	29.86	758.4	29.87	758.8	36.7	2.6	91	S			2		10			0.016	0.40		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.06	763.4	30.14	765.6	34.3	1.3	74	SE			2		9			0	0		Prof. E. Luther.
Köslin			30.03	762.7	34.5	1.4		SE			4		4			0	0		H. Müller.
Leipsic Observatory	29.56	750.9	30.00	761.9	41.2	5.1	75	SSE			1		9	SW		0.020	0.5	Sprinkling...	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.76	756.0	29.99	761.8	41.0	5.0	83	Calm			0		10ks	SSW		0	0		Dr. Assmann.
Memel	30.08	763.9	30.12	765.1	33.1	0.6	87	S			1–2		10n						Reinbrecht & Issermann
Munich (München)	28.21	716.6	30.08	764.0	38.5	3.6	85	SW			1		10			0.004	0.1		Dr. C. Lang.
Neufahrwasser	30.10	764.6	30.12	765.0	34.2	1.2	80	SSE			2		5			0	0		A. Lothes.
Neustadt (Palatinate)	29.48	748.8	30.00	762.1	43.9	6.6	72	SW			1		10	SW		0	0		Reallehrer Dicknether
Posen	29.76	756.0	30.07	763.6	33.3	0.7	85	E			2		1			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.54	750.4	30.11	764.8	42.8	6.0	86	SSW			2		10	SW		0.010	0.25		Imp. University Observatory.
Stuttgart	29.09	738.9	30.06	763.5	41.9	5.5	74	N			1		10			0.028	0.7		Prof. Dr. Schoder.
Thorn	29.97	761.1	30.15	765.9	32.4	0.2	49	SE			2		1			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.54	724.9	30.12	765.0	41.4	5.2	74		2.0	0.9			9cks		W	0	0		Reallehrer J. Hopfner
Wustrow	29.91	759.7	29.93	760.3	33.8	1.0	100	SE			2		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.75	755.7	30.15	765.8	56.7	13.7		SW			1.5		0					Clear.	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.4	29.99	761.8	68.3	20.2	26	ENE	34	15.2			10		ENE	0	0	Overcast	
Deesa	29.48	748.8	29.96	761.0	72.7	22.6	7	N	12.6	5.6			4	NW		0	0	Misty	
Bombay	29.80	756.9	29.84	757.9	75.2	24.0	64	NNW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	27.95	709.9	29.78	756.5	83.5	28.6	14	WNW	9	4.0			0			0	0	Blue sky	
Belgaum	27.29	693.1	29.82	757.3	77.1	25.1	33	WSW	6	2.7			0			0	0	Blue sky	
Lahore	29.24	742.8	30.02	762.6	60.5	15.8	42	Calm	3.7	1.6			0			0	0	Blue sky	
Roorkee	29.03	737.4	29.97	761.2	60.8	16.0	55	NW	1.3	0.6			6			0	0		
Agra	29.33	744.9	29.92	759.8	62.8	17.1	38	NW	5.1	2.3			7		N	0	0		
Nagpur	28.82	731.9	29.86	758.6	76.5	25.8	24	Calm	3.7	1.6			0			0	0	Blue sky	
Jubbulpore	28.54	725.0	29.94	760.5	69.7	20.9	32	Calm	2.3	1.0			4		E	0	0	D. clouds	
Lucknow	29.57	751.1	29.96	761.0	66.3	19.1	57	ESE	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.63	752.5	29.95	760.8	62.1	16.7	67	Calm	0.9	0.4			9		W	0	0	D. clouds	
Patna	29.76	755.9	29.95	760.7	65.8	18.8	73	W	0.3	0.1			4	W	W	0	0	D. clouds	
Hazaribagh	27.86	707.6	29.93	760.3	63.3	17.4	76	NW	7.4	3.3			8			0.24	6.1	Showery	
Cuttack	29.78	756.5	29.87	758.6	82.5	28.1	62	WSW	1.8	0.8			6					Thunder-storm	
Calcutta (Alipore)	29.86	758.6	29.90	759.4	73.0	22.8	74	NNE	9.0	4.0			10		W	0	0	Overcast	
Goalpara	29.49	749.0	29.60	759.3	61.1	16.2	94	Calm	1.3	0.6			0			0.30	7.6	Blue sky	
Chittagong	29.81	757.1	29.90	759.4	71.0	21.7	70	ENE	3.0	1.3			0			0	0	Misty	
Sibsagar	29.59	751.5	29.94	760.4	61.3	16.3	93	NW	2.8	1.2			10	W	W	0.36	9.1	D. clouds	

Note: The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.63	752.6	30.05	763 3	48.4	9.1	85	Calm	0	0	.....	.....	10	.....	.....	1.098	27.9	.....	Prof. Giovanni Clodig.
Milan	29.53	750.0	30.07	763.7	39.7	4.3	89	WSW	.....	.....	1	.....	9	.....	.....	0.252	6.4	.....	Prof. Schiaparelli.
Padua	29.95	760.6	30.06	763.5	42.3	5.7	97	NNW	4.3	1.9	.....	.....	10	.....	.....	0.437	11.1	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.9	30.07	763.8	41.9	5.5	81	ENE	0.7	0.3	.....	.....	6	NW	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.84	757.9	30.04	762 9	53.6	12.0	49	N	4.9	2.2	.....	.....	0	.....	.....	0.102	2.6	.....	Prof. G. M. Garibaldi.
Mondovi	28.10	713.8	30.06	763.5	43.2	6.2	60	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.01	762 3	30.07	763.6	41.7	5.4	94	NW	9.4	4.2	.....	.....	10	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.78	756.5	30.05	763.2	54.5	12.5	81	NE	.....	.....	2	.....	10	.....	.....	0.413	10.5	.....	Cav. F. Meucci.
Leghorn	29.96	760.9	30.04	763.1	54.5	12.5	80	W	0.7	0.3	.....	.....	10	S	.....	0	0	.....	Prof. P. Monte.
Rome	29.87	758.6	30.05	763.2	54.5	12.5	88	S	3.1	1.4	.....	.....	10	.....	.....	0.945	24.0	.....	Prof. P. S. Ferrari
Lecce	29.82	757.5	30.09	764.2	58.8	14.9	68	SSE	18.6	8.3	.....	.....	9	S	.....	0.008	0.2	.....	Prof. C. De Giorgi.
Cosenza	29.16	740.7	30.06	763.5	59.7	15.4	75	SE	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.86	758.5	30.07	763.6	57.2	14.0	57	WNW	.....	.....	4	.....	3	.....	.....	0.008	0.2	.....	Prof. A. Pacinotti.
Palermo	29.84	757.9	30.10	764.4	56.3	13.5	82	NNE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. G. Ciaccistore.
Syracuse	30.01	762.2	30.05	763.3	55.0	12.8	91	NE	2.5	1.1	.....	.....	10	SW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.08	764.0	54.5	12.5	84	SW	1.8	0.8	.....	.....	10	.....	.....	0.154	3.9	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.18	766.6	30.19	766.8	36.4	2.4	74	NNE	1.3	0.6	.....	.....	1s	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767.1	39.0	3.9	62	NNE	11.2	5.0	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.80	756.9	29.87	758.7	45.3	7.4	97	N	3.0	1.3	.....	.....	10s	.....	.....	0.025	0.63	Cloudy	The Staff.
Wakayama	30.06	763.5	30.12	765.0	41.0	5.3	67	N	6.1	2.7	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	25.06	636.6	30.24	768.1	48.7	6 5	45	W	.....	.....	1	0	0	.....	.....	0	0	Fine	R. Banda, C. E.
Guadalajara	24.42	620.2	30.18	766.7	55.0	12.8	69	NW	.....	.....	1	1s	0	.....	.....	0	0	Hazy	Prof. L. Perez.
Leon	24.42	620.2	30.18	766.7	55.0	12.8	69	NW	.....	.....	1	1s	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.80	757.0	30.07	763.7	61.0	16.1	69	NW	.....	.....	1	1cs	0	.....	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	23.04	585.3	30.16	766.0	46.4	8.0	55	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.09	611.8	.....	.....	61.2	16.2	35	SE	.....	.....	5	8k	0	NE	.....	0	0	Foggy	M. Fena, M. D.
Pabellon (Aguascalientes)	23.91	607.4	30.00	762.0	52.3	11.3	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.6	30.35	771.0	41.9	5.5	43	E	0.9	0.4	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.18	612.9	30.08	764.1	57.4	14.1	57	W	.....	.....	2	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.89	759.1	29.90	759.4	67.5	19.7	90	S	.....	.....	1	0	0	.....	.....	0	0	Very foggy	Prof. M. M. Chazaro
Vera-Cruz	29.89	759.2	29.92	759.9	68 0	20.0	90	Calm	0	0	.....	.....	2k	.....	.....	0	0	Clear	Prof. J. Rossell
Zacatecas	22.25	572.8	30.26	768.6	48.9	9.4	53	SE	.....	.....	1	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Gundalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon. 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.2	29.89	759.2	40 8	4.9	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.157	4.0	.....	
Groningen	29.83	757.6	29.88	759.0	38.8	3.8	.....	W	.....	.....	0	.....	.....	.....	.....	0.228	5.8	.....	
Helder	29.84	758.0	29.84	758.0	39.9	4.4	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.035	0.9	.....	
Hellevoetsluis	29.88	758.9	29.88	758.9	43.3	6.3	76	SSW	.....	.....	4	.....	.....	.....	.....	0.083	2.1	.....	
Utrecht	29.87	758.6	29.91	759.8	43.3	6.3	76	SSW	.....	.....	3	.....	5	.....	.....	0.063	1.6	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. reduced to sea-level. Inches.	Barometer. reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.7	29.89	759.1	38.1	3.4	73	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.97	761.3	30.01	762.3	34.5	1.4	74	ENE	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiana	29.91	759.7	30.07	763.6	33.6	0.9	80	E	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	30.06	763.2	30.09	764.3	21.9	— 5.6	77	SW	4	2	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.02	762.4	30.23	767.8	55.6	13.1	93	S	.....	.....	6	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.34	745.3	30.37	771.4	52.2	11.2	95	SSW	6.3	2.8	.....	.....	6	.....	.....	0.157	4.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.42	772.6	30.50	774.8	61.7	16.5	50	SE	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.03	762.7	30.39	772.0	57.4	14.1	92	SW	20.6	9.2	.....	.....	10	.....	.....	0.079	2.0	.....	The Staff.
Ponta Delgada (Azores)	30.16	766.1	30.23	767.9	60.1	15.6	93	SW	17.4	7.8	.....	.....	10	.....	.....	0.350	8.9	Light rain	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa																			
Porto Praya, Cape Verd Ids.	.....	.....	.....	.....	78.1	25.6	.....	NE	.....	.....	4	.....	8	.....	NE	3	ENE	D. clouds	A. de Souza Roza, 2nd L't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado. Capt. J. A de Brito Capello.																			F. Teixeira da Silva, Comd't.
St. Paul de Loando	.....	.....	29.93	760.1	81.5	27.5	.....	WNW	.....	.....	3	.....	2	.....	NW	.....	.....	D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.16	766.0	59.9	15.5	.....	N	.....	.....	2	.....	10	.....	N	1	N	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.34	770.7	30.36	771.2	12.2	—11.0	97	ESE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.35	770.8	30.26	768.7	27.0	— 2.8	89	NNE	7	3	.....	10cp	.....	.....	.....	Blank	Blank	Heavy clouds	Capt. Wisganow.
Barnaul	29.66	753.4	30.23	767.7	— 1.3	—18.5	87	S	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	29.87	758.7	30.13	765.3	25.0	— 3.9	73	SW	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.39	746.5	30.48	774.3	— 7.4	—21.9	70	W	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.24	768.1	30.54	775.7	16.2	— 8.8	68	NE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.25	768.3	30.27	768.8	25.2	— 3.8	95	ENE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.54	750.2	30.22	767.5	23.7	— 4.6	95	SE	2	1	.....	.....	10n	.....	.....	.....	.....	Light fog	Physical Cabinet.
Krotkowo*	29.95	760.8	30.47	773.8	20.8	— 6.2	69	N	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.10	764.4	30.32	770.1	15.1	— 9.4	91	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.78	756.5	30.37	771.5	20.1	— 6.6	63	S	7.8	3.5	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.99	711.0	30.60	777.3	— 7.8	—22.1	79	Calm	0	0	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.24	768.0	30.31	769.8	25.3	— 3.7	89	NE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.84	758.0	30.09	764.2	33.8	1.0	72	ENE	9	4	.....	.....	1s	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	30.30	769.3	30.44	773.2	27.0	— 2.8	76	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.08	763.9	30.09	764.3	22.5	— 5.3	73	SSE	13	6	.....	.....	1cs	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.51	724.1	30.19	766.8	25.2	— 3.8	78	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.63	727.1	30.08	763.9	45.7	7.6	47	NW	9	4	.....	7ck	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.65	753.2	30.10	764.4	32.5	0.3	78	ESE	4	2	.....	.....	10cks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.74	755.3	30 18	766.5	28.6	— 1.9	86	S	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.24	768.1	30.58	776.6	—14.4	—25.8	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.07	763.8	30.17	766.3	54.9	12.7	48	WSW	5.7	2.56	.....	.....	1cs	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.20	767.1	30.28	769.1	55.4	13.0	70	W	4.3	1.94	.....	.....	10	.....	.....	0.091	2.3	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.29	693.1	.....	.....	41.9	5.5	84	SW	7.0	3.15	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	28.04	712.3	30.35	771.0	44.8	7.1	92	SW	6.0	2.67	.....	.....	10	.....	.....	0.043	1.1	Covered	The Staff.
Murcia, Met. Obs'y	30.15	765.7	30.30	769.6	60.6	15.9	46	NW	4.8	2.14	.....	2	3	SE	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.4	30.30	769.6	51.8	11.0	86	W	0	0	.....	.....	8	.....	.....	0.626	15.9	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	763.9	30.14	765.6	67.5	19.7	86	E	2.2	1.0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.87	758.6	29.91	759.8	83.0	28.3	83	SW	3.3	1.5	.....	.....	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.37	771.4	30.47	773 9	67.7	14.3	84	W	6.3	2.8	.....	0	8	.....	W	0.120	3.0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.07	763.8	30.16	766.1	75.2	24.0	89	E	13.8	6.17	.....	4kn	5kn	E	E	0.226	5.75	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.16	766.1	30.20	767.1	21.6	— 5.8	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.12	765.0	30.17	766.3	25.2	— 3.8	95	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.10	764.5	30.16	765.8	29.1	— 1.6	92	NE	.....	.....	2	.....	10	.....	.....	0.026	0.7	.....	
Stockholm	29.92	759.9	30.10	764.4	32.7	0.4	89	NNW	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	
Wisby	29.98	761.5	30.04	763.0	32.4	.2	85	NNE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.99	761.8	30.08	764.0	32.0	0.0	88	NE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 13° 23′, W. 80° 32′	.....	.....	29.95‡	760.8‡	78.8	26.0	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.66	728.0	30.12	765.1	42.4	5.8	79	SW	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.48	722.0	30.11	764.8	40.6	4.8	86	S	.....	.....	2	.....	4	.....	.....	0.130	3.3	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.5 mm.; Thermometer, +2.4 Cent. Relative Humidity, +7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.19	766.9	43.9	6.6	81	N	9	4.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.08	764.1	62.4	16.9	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.97	761.2	51.6	10.9	84	S	.....	.....	2	.....	10n	.....	SW	0.255	6.48	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.18	765.8	30.14	765.5	7	—13.9	.....	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.12	765.0	30.19	766.8	7.2	—13.8	89	Calm	0	0	.....	.....	10ns	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.22	767.6	30.26	768.6	7.5	—13.6	100	Calm	0	0	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.27	743.4	29.46	748.3	41.0	5.0	82	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.18	766.6	6.0	—14.4	.....	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Snowing	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	18.9	— 7.3	92	SE	12	5.4	.....	.....	10n	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.04	763.0	30.12	765.0	5.2	—14.9	98	Calm	0	0	.....	.....	10n	.....	.....	0.30	7.6	Light snow	Prof. Harrison.
Fort Garry, Manitoba	28.99	736.3	29.08	738.2	— 9.4	—23.0	100	N	8	3.6	.....	5k	5n	N	.....	0.050	1.27	Cloudy	James Stewart.
Granton, Ontario	28.34	719.8	29.48	747.5	45.0	7.2	100	SW	.....	.....	3	0	0	.....	.....	0.57	14.5	Clear	James Grant.
Halifax, N. S	30.18	766.6	30.32	770.1	20.0	— 6.7	96	S	2	0.9	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	A. Allison.
Hamilton, Ontario	29.12	739.6	29.49	749.0	48.1	8.9	82	SE	.....	.....	4	0	0	.....	.....	0.05	1.3	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.17	740.9	29.51	749.5	38.9	3.8	78	S	23	10.3	.....	10ks	0	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.27	768.8	30.31	769.9	20.2	— 6.6	85	SW	4	1.8	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.33	745.0	29.54	750.3	34.0	1.6	87	S	26	11.6	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	28.96	736.1	29.01	736.8	20.5	— 6.4	97	NE	.....	.....	7	.....	10n	.....	.....	0.05	1.3	Snowing	J. R. Nesson.
Norwood, Ontario	28.72	729.5	29.44	747.8	40.0	4.4	94	SW	9	4.0	.....	.....	10s	.....	.....	0	0	Gloomy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.56	725.4	29.24	742.7	41.5	5.3	91	S	16	7.2	.....	.....	10n	.....	.....	0.50	12.7	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	28.70	729.0	29.44	747.8	42.7	5.9	79	SW	.....	.....	4	0	5s	.....	.....	0.20	5.1	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	28.94	735.1	29.63	752.6	41.9	5.5	91	SW	22	9.8	.....	10k	0	SW	.....	0.14	3.6	Fair	H. Morgan.
Port Stanley, Ontario	28.90	734.0	29.56	750.8	38.2	3.4	97	SW	24	10.7	.....	.....	10n	.....	.....	0.11	2.8	Cloudy	M. Payne.
Quebec, Quebec	29.44	747.8	29.78	756.4	28.5	— 1.9	100	E	.....	.....	6	.....	10n	.....	.....	.....	.....	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	28.80	731.5	29.27	743.4	32.1	0.1	84	Calm	0	0	.....	.....	10s	.....	.....	0.16	4.1	Light hail	W. H. McIntyre.
St. John, N. B	29.94	760.5	30.11	764.8	31	— 0.6	89	S	21	9.4	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	28.68	728.0	29.28	743.7	46.1	7.8	60	S	32	14.3	.....	1k	0	S	.....	0.20	5.1	Clear	Mrs. K. Stewart.
Stratford, Ontario	28.18	715.8	29.45	748.0	43.0	6.1	92	S	18	8.0	.....	0	1s	.....	.....	0.13	3.3	Clear	C. J. MacGregor, M. A.
Sydney, C. B	30.30	769.6	30.44	773.2	6.8	—14.0	93	S	1	0.4	.....	10cs	0	.....	.....	0.02	0.5	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.10	739.1	29.49	749.0	40.0	4.9	96	SW	20	8.9	.....	.....	8ks	.....	.....	0.330	8.38	Cloudy	Magnetic Observatory
Windsor, N. S	30.16	766.1	30.26	768.6	17.5	— 8.1	92	SW	1	0.4	.....	.....	10n	.....	.....	0.02	0.5	Fair	Prof. John E. Oram, M.A
Woodstock, Ontario	28.41	721.6	29.46	748.3	44.6	7.0	94	S	32	14.3	.....	0	5ks	W	SW	0.09	2.3	Fair	Professor Wolverton.
Yarmouth, N. S	30.12	765.0	30.19	766.8	31.0	— 0.6	89	SE	10	4.5	.....	7k	3n	E	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.95	760.7	30.23	767.8	6	—14.4	76	NW	.....	.....	.....	0	5ks	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.16	766.1	14.0	—10.0	.....	N	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Upper. 0–10.	CLOUDS. Amount. Lower. 0–10.	CLOUDS. Direction. Upper.	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.56	750.8	29.80	756.9	40	4.4	91	S	12	5.4			10s		Calm	0·07	1.8	Cloudy	
Alpena, Michigan	28.58	725.9	29.20	741.7	42	5.6	83	SW	28	12.5			10s		W	0.50	12.7	Cloudy	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.90	734.0	30.04	763.0	57	13.9	69	SE	9	4.0			10s		Calm	0.01	0.3	Cloudy	
Atlantic City, New Jersey	30.00	762.0	30.01	762.2	45	7.2	100	S	25	11.2			10n		SW	0.18	4.6	Light rain	
Augusta, Georgia	29.98	761.5	30.18	766.6	57	13.9	81	SW	2	0.9		5cs	0	SW		0	0	Fair	
Baltimore, Maryland	29.92	760.0	29.97	761.2	49	9.4	85	SW	12	5.4			10s		SW	0.41	10.4	Cloudy	
Barnegat, New Jersey	29.95	760.7	29.98	761.5	44	6.7	92	S	25	11.2			10s		W	0.13	3.3	Cloudy	
Bismarck, Dakota	28.09	713.5	29.95	760.7	1	—17.2	100	NW	22	9.8		0	0			0.01	0.3	Clear	
Boerne, Texas	28.21	716.5	29.47	748.5	61	16.1	100	SW	12	5.4			10s		W	0	0	Cloudy	
Boise City, Idaho	27.46	697.5	30.42	772.7	15	— 9.4	74	SE	1	0.4		0	0			0	0	Clear	
Boston, Massachusetts	29.81	757.2	29.96	761.0	38	3.3	81	S	13	5.8			10n		Calm	0.07	1.8	Light rain	
Bracketville, Texas	28.60	723.9	29.61	749.5	62	16.7	94	E	7	3.1			10s		Calm	0.01	0.3	Cloudy	
Breckenridge, Minnesota	28.79	731.3	29.86	758.4	5	—15.0	100	N	20	8.9			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.70	754.4	29.75	755.6	69	20.6	90	S	20	8.9		10k	0	S		0	0	Cloudy	
Buffalo, New York	28.83	732.3	29.51	749.5	46	7.8	81	S	15	6.7		2k	2s	SW	SW	0.08	2.0	Clearing	
Burkes, Arizona																			
Burlington, Vermont	29.37	746.0	29.66	753.4	37	2.8	90	S	23	10.3		2ck	8s	SW	S	0.91	0.3	Cloudy	
Cairo, Illinois	29.44	747.8	29.83	757.7	59	15.0	94	S	6	2.7			Fog			1.06	26.9	Foggy	
Campo, California	27.51	698.7	30.08	764.0	20	— 6.7	70	NW	3	1.3		0	0			0.36	9.1	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	59	15.0	76	SW	14	6.3		5cs	2ks	W	SW	0	0	Fair	
Cape Henry, Virginia	30.10	764.5	30.12	765.0	60	15.6	65		22	9.8		5c	5s	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	59	15.0	82	S	14	6.3		5ck	5g	W	W	0	0	Cloudy	
Cape May, New Jersey	29.99	761.7	30.02	762.5	50	10.0	86	S	30	13.4			10ks		S	0.04	1.0	Cloudy	
Castroville, Texas	28.89	733.8	29.57	751.1	64	17.8	89	SE	8	3.6			10s		Calm	0	0	Cloudy	
Cedar Keys, Florida	30.16	766.1	30.18	766.6	62	16.7	88	SE	11	4.9		0	0			0	0	Clear	
Charleston, South Carolina	30.14	765.5	30.20	767.1	58	14.4	82	SW	4	1.8		2cs	0	Calm		0	0	Clear	
Charlotte, North Carolina	29.25	742.9	30.06	763.5	57	13.9	81	SW	6	2.7			10n		SW	Inap.	Inap.	Light rain	
Chattanooga, Tennessee	29.19	741.4	29.98	761.5	57	13.9	81	S	6	2.7			10s		SW	0.06	1.5	Cloudy	
Cheyenne, Wyoming	28.83	605.3	29.77	756.1	11	—11.7	80	N	16	7.2		0	0			0.02	0.5	Clear	
Chicago, Illinois	28.95	735.3	29.64	752.8	38	3.3	72	W	13	5.8		0	0			0.70	17.8	Clear	
Cincinnati, Ohio	29.16	740.7	29.80	756.9	57	13.9	78	SW	5	2.2		7k	2s	W	Calm	0.30	7.6	Cloudy	
Cleveland, Ohio	28.93	734.8	29.63	752.6	52	11.1	83	S	14	6.3		1k	0	SW		0.16	4.1	Clear	
Coleman City, Texas	27.82	706.6	29.42	747.3	57	13.9	87	SW	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	28.92	734.6	29.73	755.1	52	11.1	86	SW	8	3.6		5k	Sm'e	SW	Calm	0.07	1.8	Fair	
Concho, Texas	27.67	702.8	29.27	743.4	62	16.7	72	S			2	0	0			0	0	Clear	
Corsicana, Texas	29.17	740.9	29.62	752.3	68	20.0	79	S	28	12.5			10ks		Calm	0.04	1.0	Cloudy	
Davenport, Iowa	29.12	739.6	29.76	755.9	35	1.7	70	NW	15	6.7			10s		Calm	0.56	14.2	Cloudy	
Dayton, Washington T'y					32	0.0	69	SW			4		10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.12	638.0			12	—11.1	61	SW	4	1.8		0	0			Inap	Inap.	Clear	
Decatur, Texas	28.40	721.3	29.50	749.3	66	18.9	79	SW	8	3.6			10ks		SW	0	0	Cloudy	
Denison, Texas	28.84	732.5	29.61	752.1	62	16.7	94	SE	10	4.5			10ks		S	0.25	6.3	Cloudy	
Denver, Colorado	24.61	625.1	29.83	757.7	22	— 5.6	100	N	15	6.7			10n		Calm	0.09	2.3	Light snow	
Des Moines, Iowa	28.96	735.6	29.87	758.7	30	— 1.1	69	N	4	1.8			10s		Calm	0.02	0.5	Cloudy	
Detroit, Michigan	28.87	733.3	29.52	749.8	49	9.4	71	SW	16	7.2		1k	0	W		0.16	4.1	Clear	
Dodge City, Kansas	27.14	689.3	29.48	748.8	28	— 2.2	66	NE	20	8.9		0	5s		N	0	0	Fair	
Dubuque, Iowa	29.03	737.3	29.74	755.4	29	— 1.7	78	W	9	4.0			10ks		NW	0.59	15.0	Cloudy	
Duluth, Minnesota	28.84	732.5	29.54	750.3	21	— 6.1	80	W	8	3.6			10s		W	0.21	5.3	Cloudy	
Eagle Pass, Texas	28.91	734.3	29.61	752.1	64	17.8	89	S	4	1.8			10s		S	0	0	Cloudy	
Eastport, Maine	30.00	762.0	30.07	763.8	34	1.1	79	S	17	7.6			10ks		S	0	0	Cloudy	
Edinburg, Texas																			
El Paso, Texas																			
Erie, Pennsylvania	28.86	733.0	29.55	750.6	51	10.6	79	SW	22	9.8		0	0			0.19	4.8	Clear	
Escanaba, Michigan	28.59	726.2	29.22	742.2	39	3.9	82	W	20	8.9			10s		W	0.70	17.8	Cloudy	
Florence, Arizona	28.62	726.9	30.22	767.6	33	0.6	89	SW	1	0.4		0	0			0.22	5.6	Clear	
Fort Apache, New Mexico					33	0.6	89	Calm	0	0		0	0			0	0	Clear	
Fort Assiniboine, Montana					19	— 7.2	84												
Fort Buford, Dakota	27.94	709.7	29.97	761.2	— 1	—18.3	84	Calm	0	0		0	0			0	0	Clear	
Fort Custer, Montana	26.69	677.9			6	—14.4	76	S	4	1.8		0	0			0	0	Clear	
Fort Davis, Texas																			
Fort Gibson, Indian Ter	29.18	741.1	29.71	754.6	52	11.1	54	W	12	5.4			10s		Calm	0.08	2.0	Threatening	
Fort Grant, Arizona	25.14	638.5	29.94	760.5	23	— 5.0	86	NW	20	8.9			10n		Calm	0.24	6.1	Light snow	
Fort Griffin, Texas	28.32	719.3	29.55	750.6	55	12.8	74	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.27	692.6			1	—17.2	71	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.35	694.7	29.19	741.4	59	15.0	88	S	16	7.2		1ck	1s	S	S	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.38	720.8	29.46	748.3	50	10.0	79	NE	4	1.8			10s		W	0.10	2.5	Cloudy	
Fort Stevenson, Dakota	28.08	713.2			— 2	—18.9	84	NW	20	8.9		0	0			0	0	Clear	
Fort Verde, Arizona					28	— 2.2	66	W			2	0	0			0.08	2.0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	27.79	705.8	29.29	744.0	61	16.1	71	S	17	7.6			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.75	756.4	29.83	757.7	64	17.8	94	SE	6	2.7		5ck	5ks	Calm	S	0	0	Threatening	
Graham, Texas																			
Grand Haven, Michigan	28.89	733.8	29.54	750.3	39	3.9	82	SW	22	9.8			10s		Calm	0.35	8.9	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.61	726.7	29.52	749.8	56	13.3	87	SE	8	3.6		0	8s		SW	0	0	Cloudy	
Indianapolis, Indiana	28.96	735.6	29.72	754.9	51	10.6	72	W	4	1.8		0	0			0.94	23.9	Clear	
Indianola, Texas	29.74	755.4	29.77	756.1	67	19.4	89	S	10	4.5		5c	2s	W	S	0	0	Fair	
Jacksboro, Texas	28.39	721.1	29.48	748.8	57	13.9	87	N	2	0.9		0	0			0	0	Clear	
Jacksonville, Florida	30.18	766.6	30.21	767.3	56	13.3	87	Calm	0	0		0	0			0	0	Clear	
Keokuk, Iowa	29.12	739.9	29.76	755.9	37	2.8	71	N	3	1.3		0	5s		NW	1.02	25.9	Fair	
Key West, Florida	30.13	765.3	30.16	766.1	73	22.8	81	SE	5	2.2		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.14	765.5	30.16	766.1	57	13.9	75	SW	26	11.6		5ck	Haze	W	Calm	0	0	Fair	
Knoxville, Tennessee	28.99	736.3	29.99	761.7	54	12.2	93	W	6	2.7			10n		W	1.03	26.2	Light rain	
La Crosse, Wisconsin	28.99	736.3	29.76	755.9	24	— 4.4	74	W	12	5.4			10s		W	0.46	11.7	Cloudy	
La Mesilla, New Mexico	25.88	657.3	30.03	762.7	32	0.0	40	SW	12	5.4		0	8s		Calm	0	0	Cloudy	
Laredo, Texas	29.36	745.7	29.70	754.4	60	15.6	71	SE	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	28.97	735.8	29.83	757.7	35	1.7	70	N	14	6.3		4cs	0	W		0.18	3.3	Fair	
Lewiston, Idaho					28	— 2.2	77	W	2	0.9			10s		Calm	0	0	Cloudy	
Little Rock, Arkansas	29.46	748.3	29.81	757.2	64	17.8	94	S	3	1.3			10s		S	0.44	11.2	Cloudy	
Los Angeles, California	29.91	759.7	30.06	763.6	40.0	4.4	56	NE	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.24	742.7	29.78	756.4	59	15.0	82	S	4	1.8		2k	2s;fg	SW	Calm	0.61	13.0	F. ir	
Lynchburg, Virginia	29.35	745.5	30.04	763.0	51	10.6	86	S	6	2.7			10n		Calm	0.41	10.4	Light rain	
Madison, Wisconsin	28.59	726.2	29.59	751.6	31	— 0.6	79	W	16	7.2		0	2s		W	0	0	Fair	
Marquette, Michigan	28.55	725.2	29.24	742.7	31	— 0.6	89	W	32	14.3			10s		W	0.18	4.6	Cloudy	
Mason, Texas	27.97	710.4	29.63	752.6	64	17.8	89	SW	18	8.0		0	5s		SW	0.02	0.5	Fair	
Memphis, Tennessee	29.50	749.3	29.83	757.7	63	17.2	89	SE	8	3.6			10s		SW	3.10	78.5	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.78	731.0	29.51	749.5	34	1.1	79	W	28	12.5	.....	1k	1s	W	Calm	0.99	25.1	Fair	
Mobile, Alabama	30.00	762.0	30.04	763.0	63	17.2	94	S	8	3.6	.....	.....	10n	.....	S	0.04	1.0	Light rain	
Montgomery, Alabama	29.83	757.7	30.06	763.5	62	16.7	77	S	2	0.9	.....	2k	5ks	W	W	0	0	Fair	
Morgantown, West Virginia	28.85	732.8	29 81	757.2	60	15.6	65	SW	12	5.4	.....	.....	10ks	.....	SW	0.24	6.1	Cloudy	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	22	— 5.6	100	SW	72	32.2	.....	.....	10n	.....	SW	0.10	2.5	Light snow.	
Nashville, Tennessee	29.32	744.7	29.84	757.9	62	16.7	88	S	8	1.3	.....	.....	10ks	.....	SW	2.78	70.6	Cloudy	
New Haven, Connecticut	29.82	757.4	29.94	760.5	45	7.2	92	S	12	5.4	.....	.....	10n	.....	S	0.18	4.6	Raining	
New London, Connecticut	29.93	760.2	29.98	761.5	45	7.2	92	SSW	16	7.2	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	66	18.9	94	SE	6	2.7	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Newport, Rhode Island	29.94	760.5	30.00	762.0	45	7.2	92	S	18	8.0	.....	.....	10n	.....	W	0.04	1.0	Light rain	
New River, North Carolina	.....	.....	.....	.....	57	13.9	87	S	.....	.....	1	8c	Haze	W	Calm	.....	.....	Cloudy	
New York, New York	29.74	755.4	29.92	760.0	45	7.2	92	SE	15	6.7	.....	.....	10ks	.....	SE	0.12	3.0	Cloudy	
Norfolk, Virginia	30.07	763.8	30.13	765.3	56	13.3	81	SW	11	4.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
North Platte, Nebraska	29.08	685.3	29.70	754.4	18	— 7.8	68	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	37.0	2.8	86	S	15	6.7	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Omaha, Nebraska	28.73	729.7	29.88	758.9	24	— 4.4	74	NW	17	7.6	.....	0	8s	.....	N	Inap.	Inap.	Cloudy	
Oswego, New York	29.27	743.4	29.56	751.3	47	8.3	70	S	16	7.2	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Pembina, Dakota	28.89	733.8	29.83	757.7	—10	—23.3	100	NW	22	9.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Pensacola, Florida	30.06	763.5	30.09	764.3	66	18.9	80	SE	10	4.5	.....	8cs	2n	S	SE	Inap	Inap.	Light rain	
Philadelphia, Pennsylvania	29.90	759.4	29.95	760.7	47	8.3	92	SW	16	7.2	.....	.....	10ks	.....	SW	0.14	3.6	Cloudy	
Phœnix, Arizona	28.91	734.3	30.81	782.6	35	1.7	70	N	1	0.4	.....	0	0	.....	.....	0.18	4.6	Clear	
Pike's Peak, Colorado	17.29	439.2	29.50	749.3	— 5	—20.6	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.13	3.3	Light snow.	
Pilot Point, Texas	28.84	732.5	29.67	753.6	66	18.9	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.01	609.8	29.78	756.4	13	—10.6	62	NW	11	4.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Pittsburg, Pennsylvania	28.97	735.8	29.76	755.9	55	12.8	74	SW	12	5.4	.....	.....	9s	.....	W	0.05	1.3	Cloudy	
Port Huron, Michigan	28.79	731.3	29.43	747.5	48	8.9	56	SW	30	13.4	.....	0	0	.....	.....	0.21	5.3	Clear	
Portland, Maine	29.88	758.9	29.93	760.2	38	3.3	91	S	22	9.8	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Portland, Oregon	30.26	768.6	30.33	770.4	38	3.3	81	S	16	7.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	59	15.0	82	S	9	4.0	.....	5k	0	S	.....	0	0	Fair	
Prescott, Arizona	24.64	625.8	30.00	762.0	24	— 4.4	74	S	.....	.....	1	.....	10s	.....	S	0.15	3.8	Threatening	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	65	18.3	89	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	30.07	763.8	30.46	773.7	33	0.6	70	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.50	749.3	29.71	754.6	64	17.8	89	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	28.90	734.0	29.50	749.3	46	7.8	77	SW	20	8.9	.....	1cs	Sm'c	W	Calm	0.18	4.6	Clear	
Roseburg, Oregon	29.93	760.2	30.54	775.7	31.5	— 0.3	90	SE	3	1.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Sacramento, California	30.31	769.6	30.39	771.9	35	1.7	70	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.20	741.7	29.77	756 1	40	9.4	64	NW	5	2.2	.....	2ck	0	S	.....	0.59	15.0	Fair	
St. Paul, Minnesota	28.83	732.3	29.69	754.1	20	— 6.7	70	W	14	6.3	.....	.....	10s	.....	W	0.22	5.6	Cloudy	
Salt Lake City, Utah	25.70	652.8	30.02	762.5	21	— 6.1	71	NW	12	5.4	.....	0	7s	.....	NW	0.20	5.1	Fair	
San Antonio, Texas	29.96	738.1	29.62	752.3	65	18.3	94	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.22	767.6	30.30	769.6	37	2.8	71	SE	3	1.3	.....	0	0	.....	.....	0.14	3.6	Clear	
Sandusky, Ohio	28.96	735.6	29.61	752 1	58	11.7	80	SW	23	10.3	.....	0	0	.....	.....	0.10	2.5	Clear	
Sandy Hook, New Jersey	29.86	758.4	29.89	759.2	48	8.9	93	SW	28	12.5	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
San Francisco, California	30.35	770.9	30.42	772.7	48	6.1	43	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.79	578.9	29.33	745.0	9	—12.8	78	E	4	1.8	.....	.....	10n	.....	E	0.24	6.1	Heavy snow	
Savannah, Georgia	30.14	765.5	30.23	767.8	58	14.4	58	S	4	1.8	.....	0	Sm'c	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.56	750.8	29.77	756.1	67	19.4	84	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.18	766.6	30.22	767.6	59	15.0	88	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.11	637.8	29.18	741.1	27	— 2.8	30	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.12	739.6	29.70	754.7	43	6.1	67	NW	8	3.6	.....	1c	2s	W	W	0.65	16.5	Fair	
Springfield, Massachusetts	29.75	755.6	29.88	758.9	42	5.6	91	S	9	4.0	.....	.....	10n	.....	S	0.14	3.6	Light rain	
Stockton, Texas	26.65	676.9	29.65	753.1	45	7.2	24	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.87	758.7	29.92	760.0	41	5.0	100	SE	30	13.4	.....	.....	10n	.....	SE	0.08	2.0	Light rain	
Toledo, Ohio	28.95	735.3	29.61	752.1	50	10.0	65	SW	16	7.2	.....	0	0	.....	.....	0.08	2.0	Clear	
Tucson, Arizona	27.66	702.6	30.21	767.3	32	0.0	70	SE	1	0.4	.....	5c	0	Calm	.....	0.12	3.0	Fair	
Umatilla, Oregon	29.94	760.5	30.46	773.7	38	3.3	58	SW	17	7.6	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	28.76	730.5	29.57	751.1	63	17.2	94	SE	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.66	753.4	29.92	760.0	66	18.9	95	S	12	5.4	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Virginia City, Montana	24.20	614.7	29.68	753.9	6	—14.4	52	Calm	0	0	.....	0	0	.....	.....	0.63	13.5	Clear	
Visalia, California	29.85	758.2	30.25	768.3	30	— 1.1	89	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.85	758.2	29.97	761.2	49	9.4	85	SW	17	7.6	.....	.....	10s	.....	SW	0.29	7.4	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	89	NW	.....	.....	1	0	0	.....	.....	0.25	6.3	Clear	
Wilmington, North Carolina	30.10	764.5	30.18	766.6	59	15.0	70	S	10	4.5	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.89	657.6	30.25	768.3	4	—15.6	74	SW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Wood's Holl, Massachusetts	29.96	761.0	30.00	762.0	45	7.2	84	S	28	12.5	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	30.02	762.5	30.18	766.6	34	1.1	70	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	71	21.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	74	23.3	82	Calm	0	0	.....	0	0	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.98	761.5	30.06	763.5	77	25.0	67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	77	25.0	91	E	.....	.....	8	.....	10n	.....	.....	1.500	38.10	Rainy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.41	747.0	29.96	761.0	81	27.2	76	E	.....	.....	2	.....	2ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.91	759.7	29.96	761.0	—31.0	—35.0	.....	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,191.3 feet, or 344.8 meters; Bismarck, 1,704.8 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	30.10‡	764.5‡			66	18.9	94	SSE	10	4.5			10		SW	0	0			Cloudy	
Navy Yard, Portsmouth, N.H	29.92‡	760.0‡			44	6.7	84	SW	4	1.8			10							Rainy	
Naval Hospital, Yokohama, Japan	29.88‡	758.9‡			46	7.8	92	Calm			0		10n		N	0.10	2.5			Light rain	
Adams, Pichilinque Bay, Mexico*	30.23‡	767.6‡			62	16.7	46	WNW			2		8		WNW			Smooth		Cloudy	
Colorado, New York, N. Y	29.85‡	758.2‡			45	7.2		SE			5		10		SE	0.11	2.8			Overcast	
Constitution, N. 10° 11′, W. 79° 10′	29.94‡	760.5‡			78	25.6	82	NNE			5		2		NE			Mod'ate	NE	Clear	
Enterprise, Villafranca, France	30.06‡	763.5‡			55	12.8	74	SE			3		4		ESE			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.15‡	765.8‡			58	14.4	76	SSW	8	3.6			10		WSW	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.38‡	771.6‡			40	4.4	100	NE	1.2	0.5			0			0	0			Clear	
Kearsarge, Shephard'sHarbor, Chiriqui	30.01‡	762.2‡			74	23.3	90	WSW			0–1		5		WSW			Smooth		Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.37‡	771.4‡			46	7.8	62	NW			1		0							Clear	
Marion, S. 33° 08′, W. 49° 28′	29.86‡	758.4‡			74	23.3	76	ESE			2		8		Calm	0	0	Long	E	Cloudy	
Michigan, Erie, Pa	29.52‡	749.8‡			51	10.6	86	SSW			4		2		SW					Fair	
Monocacy, Shanghai, China	30.36‡	771.1‡			36	2.2	71	NNE			1		10		NNE					Cloudy	
New Hampshire, Port Royal, S. C	30.19‡	766.8‡			58	14.4	94	SSE	6	2.7			1		Calm	0	0			Clear	
Nipsic, N. 14° 57′, W. 63° 38′	30.09‡	764.3‡			77	25.0	82	NE			4		2		NE			Long	NE	D. clouds	
Onward, Callao, Peru †	29.89‡	759.2‡			70	21.1	90	Calm			0		8					Long	W	Fair	
Palos, Tientsin, China	30.45‡	773.4‡			35	1.7	100	Calm			0		0							Clear	
Passaic, Washington, D. C	29.98‡	761.5‡			48	8.9	93	SW			3		8		NE					Cloudy	
Pensacola, Callao, Peru	29.89‡	759.2‡			70	21.1	85	NNE			1							Smooth		Hazy	
Powhatan, Off Norfolk, Va.	30.11‡	764.8‡			58	14.4	70	SSW			2		10		WSW	Light	Light			Drizzling	
Quinnebaug, Leghorn, Italy	30.04‡	763.0‡			58	14.4	77	WSW			1		10		SW					Cloudy	
Ranger, Mare I'd, Navy Yard, Cal.	30.38‡	771.6‡			45	7.2	68	NNW			4		0					Smooth		Clear	
Richmond, Hong-Kong, China	30.06‡	763.5‡			59	15.0	94	E			3		10					Smooth		Sprinkling	
Rio Bravo, Brownsville, Texas †	29.91‡	759.7‡			67	19.4	100	S	8	3.6			10		S	0	0			Cloudy	
Santee, Annapolis, Md	29.98‡	761.5‡			49	9.4	85	S			2		10		S	0.15	3.8			Hazy	
Shenandoah, Montevideo, Uruguay	29.91‡	759.7‡			69	20.6	90	E			2		5		E			Mod'ate	E	Fair	
St. Louis, League Island, Pa	29.98‡	761.5‡			46	7.8	92	SW	24	10.7			10		SW	0.2	5.			Cloudy	
Swatara, N. 35° 32′, W. 10° 14′	30.47‡	773.9‡			65	18.3	78	W			2		8		NW			Mod'ate	NW	Cloudy	
Tennessee, Norfolk, Va	30.07‡	763.8‡			54	12.2	80	SSW	7	3.1			10		SW	0	0			Overcast	
Trenton, Toulon, France	30.04‡	763.0‡			57	13.9	58	WNW			3		2			1 h'r	1 h'r			Clear	
Tuscarora, La Libertad, San Salvador	30.02‡	762.5‡			78	25.6	65	NE			1		0			0	0	Smooth		Clear	
Wabash, Boston, Mass	29.75‡	755.6‡			48	8.9	93	SW	5	2.2			10			0.15	3.8			Rain and fog	
Wachusett, Montevideo, Uruguay †	30.49‡	774.4‡			67	19.4	69	ESE			2		1					Smooth	E	Fair	
Wyoming, Naples, Italy	30.04‡	763.0‡			57	13.9	81	S			1		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft. or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 52° 21′, W. 31° 04′...†	29.66‡	753.4‡	33	0.6		WSW			5		5		W			Heavy	WNW	Fair	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian, N. 38° 40′, W. 72° 40′...*	29.90‡	741.0‡	61	16.1	82	SW			6		7		SW			Rough	SW	Misty	
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Locust Point, Md.	29 91‡	759.7‡	48	8.9		SW			4		10		SW					Dull	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent, N. 50° 08′, W. 22° 44′	29.82‡	757.4‡	46	7.8	69	WNW			3		6		WNW	Mod'te	Mod'te	Heavy	NW	Fair	
S. S. Ohio, Henry Morrison																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 27° 30′, W. 110° 56′...†	30.34‡	770.6‡				NW			6		2		NW			Mod'te	NW	Clear	

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undutsch.
S. S. Leipzig, F. Pfeiffer, N. 52° 40′, E. 9° 18′	29.87‡	758.7‡	42.6	5.8	96	SW			4		2		W	0	0	Mod'te	SW	Hazy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 30° 51′, E. 120° 25′...†	30.08‡	764.0‡	54	12.2	67	NW			5		5		NW			Mod'te	NW	Fair	D. A. Joyce.
S. S. Gaelic, W. H. Kidley																			J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal...†	30.41‡	772.4‡	46	7.8		NW			8		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 15° 45', W. 95° 45'....†.	29.89‡	759.2‡	80	26.7	91	E			2		2		Calm	0	0	Light	SSW	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann, N. 40° 21', W. 124° 32'...†.	30.58‡	774.7‡	46	7.8	.....	NW			4		2		W			Mod'ate	NW	Clear.....	E. Polemann.
S. S. City of Panama, M. Connolly, Manzanilla, Mexico ....†.	29.95‡	760.7‡	76	24.4	.....	WNW			2		2		NNW	0	0	Smooth	N	Hazy.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury N. 29° 41', E. 130° 12'....†.	29.99‡	761.7‡	58	14.4	76	NE			6		10			0	0	Mod'ate	NE	Misty.....	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths N. 42° 40', W. 124° 38'....†.	30.44‡	773.2‡	46	7.8	.....	SSE			3		10		Calm	0	0	Heavy	NW	Clear.....	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Zealandia, R. C. Ghest.																			
RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes.																			J. Farmer & W. Apetan.
WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,... ..																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.
MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis...																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 40° 47', E. 93° 30'.....*.	30.32‡	770.1‡	60	15.6	.....	Calm			0		0					Short	SW	Clear.....	B. F. Woodbury.
Brigantine George, W. H. Champlin, N 32° 20' W 72° 36'.....	30.30‡	769.6‡	68	20.0	.. ..	SSE			5		8?		S	Blank	Blank	Rough	SE	Clear?.....	
Iron Cross, W. Randall, N. 34° 93', W. 16°45'..	29.48‡	774.2‡	62	16.7	69	Calm			0		6		WSW	0	0	Long	WNW	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 13, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.37	771.3				W			1		5			0	0	Cloudy	
Nemours			30.32	770.0	64.0	17.8	82	NNW			1		6			0	0	Cloudy	Kesxuche.
Algiers			30.27	768.8	55.8	13.2	75	NNW			2		5			Inap.	Inap.	Cloudy	Tourilliere.
La Calle			30.16	765.1	58.6	14.7	63	NW			3		7			0.079	2.0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.11	764.7															Gau.
Saida			30.26	768.7															Herbin.
Tebessa			30.20	767.0	41.0	5.0	93	N			3		10			0.118	3.0	Covered	Watrin.
Geriville																			Brugnlaux.
Laghouat			30.28	769.0	55.8	13.2	26	NW			3		2			0	0	Fair	Bertrand.
Biskra			30.17	766.4	64.0	17.8	46	WNW			4		2			0	0	Fair	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.56	750.7	30.13	765.3	35.1	1.7	96	E			3		10			0.083	2.1	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.39	746.4	30.19	766.8	36.0	2.2	93	W	0.2	0.1			10			0.130	3.3		Dr. Wierzbicki.
Eperies	29.18	741.2	30.10	764.4	38.1	3.4	87					10c				0	0		Julius Mikolik.
Gratz	28.85	732.8	30.15	765.9	37.4	3.0	91	E			2		10			0.394	10.0		Andreas Rospini.
Hermannstadt	28.63	727.1	30.10	764.4	43.2	6.2	72	SSE			2		0			0	0		Prof. A. Gottschling
Kremsmünster, Observatory	28.81	731.8	30.21	767.3	36.1	2.3	91	WSW			1		10			0.059	1.5		The Staff.
Lemberg	29.10	739.2	30.13	765.4	36.1	2.3	66	SE			1		10			0	0		Dr. T. Stanecki.
Pola	29.97	761.2	30.08	764.1	46.2	7.9	90	WNW			1		10			0.287	7 3		I.R.Hydrographic Office.
Szathmar	29.62	752.4	30.10	764.5	45.5	7.5	65	E			2		8			0	0		Pet. Pancsics, S. J.
Szegedin	29.76	755.9	30.05	763.2	43.5	6.4	79	Calm			0		10			0.154	3.90		Karl Stancel.
Trieste	30.01	762.2	30.11	764.8	46.4	8.0	81	W			1		10			Inap.	Inap.	Raining	P. Busin.
Vienna	29.44	747.7	30.17	766.3	35.6	2.0	91	WNW			3		10			0.724	18.4		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Pasau
Brussels	30.04	763.1	30.25	768.4	41.4	5.2	84	SW			1	2	5	WSW	W	0	0	Solar corona	Royal Observatory.
Furnes	30.23	767.6	30.26	768.5	47.1	8.4	69	WSW			2		0			0	0		M. E. de Cae.
Maeseyck	30.14	765.5	30.26	768.7	39.0	3.9	86	W			2		10			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:8 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.92	760.0	30.02	762.5	44.0	6.7		WSW	6	2.7			1			0.175	4.45	Blue sky	W. Boswell.
Ardrossan	30.03	762.7	30.04	763.0	42	5.6		SSW			4		0					Blue sky	G.Carrick.
Armagh, (Observatory)	29.79	756.7	30.04	763.0	41.9	5.5		SE	18	5.8			3					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.14	765.5	44.3	6.8		SW	7	3.1			1					Blue sky	John Hartnup.
Bolton (Sharples)	29.59	751.6	30.11	764.8	41.6	5.3		SW	3	1.3			0					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.73	755.1	30.12	765.0	42.1	5.6	73	NW			4		3			0.08	2.0	Blue sky	J McLandsborough.
Bridgetown, Barbadoes	30.02	762.5	30.05	763.3	78.6	25.9		NE			1		2					D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	30.10	764.5	30.20	767.1	47.0	8.3		SW			1		1					D. clouds	H. Todd.
Cardington			30.18	766.6	44.6	7.0		W			0–1		1					Blue sky	John McLaren.
Chatham (School M. E.)	30.08	764.0	30.21	767.3	51.1	10.6		Calm			0		3					D. clouds	F. Magauran, Q. M. S'gt., R.E
Donaghadee	30.01	762.2	30.05	763.3	43	6.1		SW			5		5					D. clouds	J. Mac Gowan.
Dover	30.20	767.1	30.28	767.8	42	5.6		W			4		0					Clear	J. Costello.
Falmouth (Observatory)	29.95	760.7	30.19	766.8	48.5	9.2		SSE			3		7					Overcast	The Staff.
Fort Napier, Natal	27.58	700.6	29.79	756.7	80.2	26.8		NW			1		0					Blue sky	Corp'l H.Coombs,A.H.C
Free Town, Sierra Leone	29.65	753.1	29.88	758.9	88	31.1		E			1		3k						
Galway (Queen's College)			29.76	755.9	45	7.2		SSE			6		10					Overcast	M O'Donaghue.
Gibraltar, Mediterranean.§	30.22	767.6	30.28	769.1	62.4	16.9		W			3		4					Blue sky	Corp'l S. Cordue,A.H.C.
Glasgow, (Observatory)	29.83	757.7	30.04	763.0	44.0	6.7		SW			3		3					D. clouds	D. G. Maclean.
Great Yarmouth	30.17	766.3	30.18	766.6	43	6.1		W			2		2					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	30.05	763.3	30.25	767.8	46.0	7.8		WSW					1					Blue sky	The Staff, for G.B.Airy.
Guernsey	30.02	762.5	30.24	768.1	48.5	9.2		SW			1		0			Blank	Blank	Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.25	768.3	30.37	771.4	50	10.0		SW			6	4c				0.09	2.3	Fine	M. P. Moyle.
Holyhead	30.03	762.7	30.11	764.8	44	6.7		SSW			3		1					Blue sky	John Tilston.
Jersey	29.99	761.7	30.29	769.4	48.3	9.1		WSW			2		1					D. clouds	J. Fisher.
Kew (Observatory)	30.19	766.8	30.23	767.8	45.0	7.2		WNW	6	2.7			4					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.92	760.0	30.18	766.6	44.0	6.7		SW			2		5					D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.82	757.4	29.90	759.4	60.2	15.7		E					8kn					Overcast	A. King.
Nairn	29.87	758.7	29.96	761.0	44	6.7		WSW			1		0					Clear	W. D. Penny.
Nassau, Bahamas			30.10	764.5	74.0	23.3		SE					4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.98	761.5	30.18	766.6	45.0	7.2		SW			2	2c		W		0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.64	752.8	30.17	766.3	44.5	6.9		SSW			2		9					Misty	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.98	761.5	30.23	767.8	46	7.8		SW			2		1					Blue sky	H. E. Bellamy.
Plymouth	30.11	764.8	30.19	766.8	48.6	9.2		SW			1		3					D. clouds	John Merrifield.
*Roche's Point	29.89	759.2	29.97	761.2	46	7.8		S			6		10					Overcast	Wm. Kennedy.
St. Ann's Head	29.94	760.5	30.11	764.8	46	7.8		SE			4		5	WNW				D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.92	760.0	44.3	6.8		WSW	15	6.7			2					Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.10	764.5	30.17	766.3	47.8	8.8		NE			2		5					D. clouds	Serg't W. H. Lyne.
Sheffield	29.87	758.7	30.16	766.1	44.4	6.9		SW			1		2			0.05	1.3	Blue sky	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.10	764.5	44.7	7.1	74	W			1		0			0.074	1.88	Blue sky	Rev. F. Redford, A. M
Stonyhurst (Observatory)			30.12	765.0	42.0	5.6		WSW	11	4.9			10					Overcast	Rev. S. J. Perry.
Strathfield, Turgiss	30.02	762.5	30.25	768.3	43.6	6.4		W			2		0					Blue sky	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.08	764.0	30.14	765.5	50	10.0		S			7		5					D. clouds	W. Newcombe.
Valencia Observatory)	29.67	753.6	29.70	754 4	48.5	9.2		SE	54	24.1			10			Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.99	761.7	30.03	762.7	71.8	22.1	63	SSW	14.9	6.7		1c	3ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.72	678.7			73	22.3		W					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.86	758.4	69.0	20.6	78	SW			5		10k			0.02	0.5	Raining	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith(Restalrig Park)Sc'tl'd			30.05	763.3	44.0	6.7		W			2		2k			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.78	756.4	29.97	761.3	80.0	26.7	59	SE	19.5	8.7		0	2		E	0.15	3.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.68	753.9	29.78	756.4	69.8	21.0	81	SW	9	4.0			5			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			29.86	758.4	47	8.3		S			6		10			0.1	3.		
North Unst, Shetland Is			29.88	758.9				SSW			4	0	4			0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer.
City of Agra, S. 37° 53′ W. 29° 00′	7		Drizzling	Capt. Thos. Young.
City of Cashmere, S. 18° 15′, W. 37° 05′			D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 33° 50′, W. 67° 10′	7	SW	Overcast	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			Squally	Capt. O. D. Coxwell
Barque Royal Alexandra, S. 26° 28.′ E. 54° 27′			D. clouds	Capt. W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson
S. S. Sunbeam				Capt. C. M. Dobson.
S. S. Ethiopia				Capt. A. Campbell.
S. S. Decapolis				Capt. T. M. Almond
Barque Dochra				Capt. N. Spalding
Barque Fedalma				Capt. H. L. Fox.
H. M. S. Alert				Capt. J.P. Maclear, R.N
Barque Commewyne				Capt. Jas. Buchan.
S. S. Richmond				Capt. W. H. Stuart.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
City of Agra, S. 37° 53′ W. 29° 00′			29.95‡	760.7‡	68.5	20.3		NNE			6		10			7		Drizzling	Capt. Thos. Young.
City of Cashmere, S. 18° 15′, W. 37° 05′			30.03‡	762.7‡	80.7	27.1		ENE			4		6					D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 33° 50′, W. 67° 10′			30.18	766.6				SSW			7		9			7	SW	Overcast	Capt. L. C. Dart.
S. S. German, Algoa Bay, Cape Colony			29.75‡	755 6‡	72	22.2		SW			8		5					Squally	Capt. O. D. Coxwell
Barque Royal Alexandra, S. 26° 28.′ E. 54° 27′			30.09	764.3‡	78.5	25.8		E			4		4					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond
Barque Dochra																			Capt. N. Spalding
Barque Fedalma																			Capt. H. L. Fox.
H. M. S. Alert																			Capt. J.P. Maclear, R.N
Barque Commewyne																			Capt. Jas. Buchan.
S. S. Richmond																			Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	61.7	16.5	84	NE			3		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm.) for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.03	762.7	30.08	763.9	35.1	1.7	94	SSW			2		10					Foggy	
Faröe	30.05	763.2	30.07	763.7	38.7	3.7	92	WSW			4		9						
Godthaab (Greenland)	29.16	740.6	29.20	741.7	— 2.6	—19.2		NNE			6		9						
Stykkisholm (Iceland)	29.42	747.2	29.46	748.3	31.3	— 0.4	100	SW			7		10					Snowing	
Thorshavn (Faröe)	29.84	758.0	29.88	758.9	43.0	6.1	68	SSW			2		3						
Vestervig	29.91	759.6	30.02	762.4	38.1	3.4	95	SW			2		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.78	756.4	30.33	770.4	46.5	7.5	71	SW			1		8		NW	0.08	2.	Very cloudy	Colignon, Director.
Amiens, Normal School	30.47	766.4	30.29	769.3	46.8	8.2	92	SW			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.00	762.1	30.27	768.9	43.2	6.2	94	NW			2		k		NW	0.055	1.4		Klein, Commandant
Avignon, Normal School	30.09	764.3	30.17	766.3	50.7	10.4	40	N			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.75	755.7	30.33	770.4	41.2	5.1	86	WSW			1		8kn		W	0.118	3.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	30.04	763.1	30.32	770.0	43.9	6.6	78	WNW			1		8		NW	0.089	2.25	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.42	747.2	30.34	770.5	42.8	6	76	WSW			1		5		SW	0.189	4.8	Cloudy	A. Carré, Director.
Bordeaux	30.11	764.9	30.31	769.9	53.8	12.1	53	SSW			1		5			0.085	2.15	Cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.47	748.5	30.39	771.8	43.5	6.4	82	N			3	8c			N	0.205	5.2	Very cloudy	Marlot, Director.
Bourges, Normal School	29.75	755.6	30.32	770.1	42.1	5.6	91	WNW			1		2k		WNW	0.035	0.9	Slightly cld'y	M. Gence, Director.
Brest, Naval Observatory	30.00	762.1	30.24	768.2	55.8	13.2	83	SW			1		4		SW	0.020	0.50		Ch. de Rermaree, Dir.
Caen, Normal School	30.25	768.3	30.33	770.3	46.9	8.3	67	W			1		5		W	0.142	3.6	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.87	758.7	30.30	769.5	51.1	10.6	60	WNW			2		5	NW	WNW	0 098	2.5	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.00	762.1	30.34	770.5	36.9	2.7	93	SW			1		10			0	0	Covered	Jadot, Director
Chartres, Normal School	29.69	754.2	30.27	768.9	48.6	9.2	93	W			1		3	NE		0	0		E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.93	734.7	30.32	770.1	48.2	9.0	65	NW			1		5			0	0		Alluard, Director.
Commercy, Normal School	29.43	747.5	30.33	770.4	40.3	4.6	87	W			2		5kn	W	W	0.142	3.6	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.01	736.8	30.15	765.8	50.5	10.3	52	NW			2		2		NW	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.48	748.7	30.29	769.3	44.6	7	66	ENE			2		kn		NW	0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.12	765.1	30.34	770.7	51.1	10.6	84	SSE			1		5		SSE	0.031	0.8	Cloudy	Mouillot, Director.
Le Mans, Normal School	30.00	762.0	30.32	770.0	43.7	6.5	85	S			1		2	NW	WNW	0.150	3.8	Slightly cld'y	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.9	30.46	773.7	42.8	6	65	N			1	5c			W	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	30.19	766.8	30.30	769.6	48.9	9.4	82	S			1		8		S	0.008	0.2	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.69	754.1	30.33	770.4	46.6	8.1	66	N			1		5k		N	0.079	2.0	Fair	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.82	757.5	30.10	764.4	52.9	11.6	48	NW			4–6		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.20	741.6	30.26	768.6	42.1	5.6	76	NW			1		5			0.08	2.	Fair	Barbier, Director.
Mont-Louis	24 93	633.1	30.24	768.1	30.9	— 0.6	92	N			4		6		SW	0.047	1.2		M. Cave, for Dr. Fines.
Nice	30.02	762.5	30.00	763.4	55.0	12.8	79	SE			3		1	NE	SE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.97	761.2	30.18	766.5	52.5	11.4	78	NW			1		0			0	0	Clear	M. Boyer, Director.
Perpignan	30.17	766.3	30.28	769.0	52.0	11.1	48	NW	28.9	12.5			2	NW	NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.58	573.6			23.0	— 5.0							1		N	0.295	7.5	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.14	740.1	30.27	768.9	46.8	8.2	46	N			1	c				0	0		M. Tallieu
Puy de Dome (Summit) Obs	25.29	642.9			26.4	— 3.1	98	NW			3		8			0.205	5.2	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	30.34	770.6	30.37	771.4	51.8	11.0	85	W			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	30.19	766.9	30.28	769.1	48.0	8.9	62	W			1		2		W	0.087	2.2	Slightly cld'y	Frère Lucard, Director.
Saint Malo (Port) Obs'y	30.24	768.0	30.27	768.8	51.9	11.0	63	WNW			2		1		NW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.13	765.4	30.30	769.6	43.8	6.6	79	SSW			1		10		NW; W	0.157	4.0	Covered	E. Renou, Director.
Tarbes, Normal School	29.24	742.8	30.32	770.2	59.0	15	39	SW			1					0	0		T. Huguet, Director.
Toulouse, Observatory	29.67	753.6	30.40	772.2	49.4	8.0	83	NW			1		5			0	0	Cloudy	B. Bailland, Dir.
Tours	30.11	764.8	30.31	769.8	47.3	8.5	77	W			1		8		NNW	0.106	2.7	¾ covered	M. de Tastes.
Versailles, Observatory	24.80	756.8	30.29	769.3	45.3	7.4	75	W			1		5			0.005	0.13	Fair	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.64	752.8	30.37	771.5	45.0	7.2	94	N			1		2		N	0.094	2.4	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.06	763.5	30.09	764.2	75.2	24										0.12	3.		L'Abbé Marchésl
Paris, Montsouris Obs'y	30.01	762.3			45.1	7.3	70	WNW			1		4		WNW	0.079	2.0		Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.20	767.0	30.22	767.6	40.6	4.8	90	E	4.9	2.2			10			0	0	Covered	Marc Dechevrens. J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.38	746.2	30.25	763.3	37.0	2.8	89	SE			4		9ks	SW		0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.99	761.8	30.17	766.3	39.2	4.0	85	NW			1		10			0	0		Prof. Dr. Arndt.
Breslau	29.65	753.2	30.19	766.8	37.4	3.0	83	NW			2		10			0	0		Royal University Obs'y
Carlsruhe	29.84	758.0	30.28	769.2	42.1	5.6	78	S			0		10	NW		0	0		Albert Senz.
Cassel	29.63	752.5	30.24	768.0	42.4	5.8	75	SW			1		5	S		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.97	761.2	30.35	770.9	41.5	5.3	60	WSW			0		10			0.035	0.9		Physical Society.
Friedrichshafen	28.82	732.0	30.31	769.9	39.9	4.4	84	SSW			2		9	SW		0	0		Chief T elegrapher Wilhelm.
Hamburg	30.11	764.9	30.19	766.7	35.4	1.9	98	WSW			2		10			0 043	1.1	Foggy	Dr. Reinhold Kleeman.
Kiel	30.12	765.0	30.13	765.4	37.4	3.0	94	WSW			2		10			0.020	0.52		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.11	764.7	30.19	766.9	30.4	0.9	76	SE			2		5			0	0		Prof. E. Luther.
Köslin			30.15	765.8	35.4	1.9		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.79	756.7	30.23	767.8	38.3	3.5	85	SW			2		10	SW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.98	761.4	30.21	767.2	41.4	5.2	80	SW			4		8ks	WNW		0	0		Dr. Assmann.
Memel	30.14	765.6	30.19	766.8	32.2	0.1	85	S			2		10n						Reinbrecht & Issermann
Munich (München)	28.38	720.8	30.26	768.5	34.0	1.1	92	W			3		10			0.047	1.2	Snowy	Dr. C. Lang.
Neufahrwasser	30.16	766.1	30.18	766.5	33.6	0.9	82	S			1		10			0	0	Hazy	A. Lothes.
Neustadt (Palatinate)	29.73	755.2	30.26	768.7	43.5	6.4	61	W			4		6	W		0	0		Reallehrer Dicknether
Posen	29.87	758 8	30.17	766.4	38.5	3.6	97	W			2		10			0.004	0.1		Prof. Dr. Magener.
Strassburg (in Alsace)	29.76	755.9	30.33	770.4	43.5	6.4	79	SE			1		10	WNW		0.152	3.85		Imp. University Observatory.
Stuttgart	29.30	744.3	30.28	769.1	41 9	5.5	70	NW			2		10			0	0		Prof. Dr. Schoder.
Thorn	30.01	762.2	30.20	767 0	33.8	1.0	81	Calm			0		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.78	729.7	30.32	770.1	35.8	2.1	93	NW	2.0	0.9			10		NW	0.063	1.6	Foggy	Reallehrer J. Hopfner.
Wustrow	30.13	765.3	30.15	765.9	34.2	1.2	100	SW			3		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.75	755.7	30.15	765.8	57.4	14.1		NE			2.5		5					½ clear	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.4	29.95	760.7	85.3	18.5	31	NW	7	3.1			3		NW	0	0	D. clouds	
Deesa	29.43	747.4	29.91	759.6	76.9	24.9	13	N	11.4	5.1			7	NW		0	0	D. clouds	
Bombay	29.82	757.5	29.86	758.5	76.7	24.8	68	WNW	18.0	8.0			0			0	0	Blue sky	
Poona (Yarrowda)	27.96	710.3	29.80	756.8	85.0	29.4	15	SW	18	8.0			0			0	0	Blue sky	
Belgaim	27.31	693.6	29.86	758.3	75.2	24.0	45	W	11	4.9			0			0	0	Blue sky	
Lahore	29.22	742.1	30.06	761.9	59.6	15.3	51	Calm	1.7	0.8			6			0	0	D. clouds	
Roorkee	29.00	736.8	29.94	760.5	62.4	16.9	64	Calm	1.5	0.7			4			0	0		
Agra	29.39	746.4	29.97	761.3	64.8	18.2	41	S	2.8	1.2			6		S	0	0		
Nagpur	28.78	7 1.0	29.82	757.4	82.7	28.2	41	Calm	3.0	1.3			0			0	0	Blue sky	
Jubbulpore	28.54	724.8	29.92	760.1	71.8	22.1	33	E	1.6	0.7						0.	0	Blue sky	
Lucknow	29.56	750.8	29.95	760.8	63.3	17.4	70	NE	0.3	0.1			6		SE	0	0	D. clouds	
Allahabad	29.64	752.7	29.96	761.0	61.6	16.4	68	Calm	2.1	0.9			7			0	0	D. clouds	
Patna	29.75	755.6	29.94	760.4	66.8	19.3	50	W	0.5	0.2			4	NW	NW	0	0	D. clouds	
Hazaribagh	27.85	707.5	29.93	760.1	63.3	17.4	41	NW	3.8	1.7			4			0	0		
Cuttack	29.82	757.4	29.90	759.5	73.0	22.8	87	SE	1.8	0.8			8			1.03	26.2	D. clouds	
Calcutta (Alipore)	29.89	759.2	29.91	759.8	73.5	23.1	68	NNE	3.0	1.3			1	E		0	0	D. clouds	
Goalpara	29.50	749.4	29.91	759.5	64.7	18.2	47	WNW	1.6	0 7			1			0.01	0.3	D. clouds	
Chittagong	29.83	757.6	29.92	760.0	72.8	22.7	77	W	3.2	1.4			0			0	0	Misty	
Sibsagar	29.61	752.1	29.96	761.0	61.6	16.4	94	ENE	2.9	1.3			8	W	W	0.09	2.3	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.3	30.12	765.0	46.4	8.0	74	N	0.7	0.3	.....	.....	10	.....	.....	0.539	13.7	.....	Prof. Giovanni Clodig.
Milan	29.60	751.7	30.14	765.5	35.6	2.0	91	NE	.....	.....	1	.....	10	.....	.....	0.024	0.6	.....	Prof. Schiaparelli.
Padua	30.02	762.5	30.13	765.4	44.2	6.8	93	NE	8.1	3.6	.....	.....	10	.....	.....	0.295	7.5	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.17	740.9	30.11	764.8	39.7	4.3	90	N	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.80	759.2	30.09	764.2	54.5	12.5	54	S	8.8	1.7	.....	.....	4	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.15	715.1	30.11	764.8	47.5	8.6	41	W	.....	.....	2	.....	1	SSW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.04	763.0	30.09	764 3	42.8	6.0	89	NW	9.8	4.4	.....	.....	9	NE	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.82	757.4	30.08	764.1	50.9	10.5	83	NW	.....	.....	2	.....	10	.....	.....	0.315	8.0	.....	Cav. F. Meucci.
Leghorn	29 99	761.7	30.08	764.0	52.0	11.1	70	NNE	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.86	758.4	30.04	763 0	53.2	11.8	65	N	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.80	757.0	30.07	763.7	57.2	14.0	86	SW	2.5	1.1	.....	.....	10	SW	.....	0.315	8.0	.....	Prof. C. De Giorgi.
Cosenza	29.12	739.7	30.02	762.5	55.0	12.8	75	NE	0	0	.....	.....	10	.....	.....	0.110	2.8	.....	Prof. D. Conti.
Cagliari	29.84	757.8	30.04	762 9	53.6	12.0	76	NW	.....	.....	2	.....	1	N	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.82	757.3	30.07	763 8	51.1	10.6	82	Calm	0	0	.....	.....	10	.....	.....	0.547	13.9	.....	Prof. G. Ciacciatore.
Syracuse	29.97	761.1	30.01	762.2	55.8	13.2	93	E	2.5	1.1	.....	.....	10	E	.....	0.059	1.5	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.51	749.6	30.04	763.0	53.6	12.0	74	SW	0	0	.....	.....	8	.....	.....	0.291	9.4	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 550 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.30	769.6	30.32	770.1	39.2	4.0	67	NNE	9.5	4.2	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	40.6	4.8	73	NE	7.6	3.4	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.04	763.0	30.11	764.8	38.6	3.7	59	NNW	12.1	5.4	.....	0	0	.....	.....	0	0	Clear	The Staff.
Wakayama	30.21	767.8	30.27	768.8	41.5	5.3	62	N	8.1	3.6	.....	.....	0	.....	.....	0	0	Clear	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	24.98	634.4	30.18	766.5	40.1	4.5	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.36	618.8	30.14	765.5	51.1	10.6	65	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.74	755.3	30.00	762.1	51.8	11.0	80	NW	.....	.....	2	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	28.00	684.1	30.07	763.7	48.2	9.0	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.08	611.6	.....	.....	60.4	15.8	40	SW	.....	.....	4	1k	0	NW	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.86	606.1	29.94	760.4	48.4	9.1	55	SW	.....	.....	1	0	0	.....	.....	0	0	Very clear.	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.39	594.0	30.28	769.1	44.6	7.0	49	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.11	612.3	30.12	765.1	52.5	11.4	46	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.	G. Barroeta, M. D.
Tlacotalpam	29.71	754.6	29.72	754.9	72.1	22.3	84	S	.....	.....	3	0	0	.....	.....	0	0	Clear	Prof. M. M. Chazaro.
Vera-Cruz	29.73	755.0	29.75	755.7	70.7	21.5	87	Calm	0	0	.....	.....	2k	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.47	570.7	30.18	766.6	45.7	7.7	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear.	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.6 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERILS.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.25	768.3	30.25	768.3	41.5	5.3	.....	W	.....	.....	3	.....	.....	.....	.....	0.067	1.7	.....	
Groningen	30.12	765.0	30.17	766 4	40.8	4.9	.....	W	.....	.....	2	.....	.....	.....	.....	0.024	0.6	.....	
Helder	30.17	766.4	30.17	766.4	39.4	4.1	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.21	767.3	30.21	767.3	40.5	4.7	82	W	.....	.....	4	.....	.....	.....	.....	0.087	2.2	.....	
Utrecht	30.17	766.4	30.22	767.6	45.1	7.3	77	SW	.....	.....	2	.....	5	.....	.....	0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.92	760.0	29.98	761.4	37.4	3.0	76	Calm	0	0	.....	.....	8	.....	.....	0.012	0.3	.....	
Brönö	30.03	762.7	30.07	763.7	33.8	1.0	65	E	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiana	29.94	760.4	30.09	764.3	32.7	0.4	92	ENE	7	3	.....	.....	10	.....	.....	0.012	0.3	Snowing	
Tromsö	30.04	763.0	30.08	764.1	24.3	— 4.3	66	SW	11	5	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.81	757.1	30.02	762.6	54.5	12.5	74	W	.....	.....	6	.....	3	.....	.....	1.260	32.0	.....	Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.34	770.5	50.9	10.5	55	ESE	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.28	769.1	30.37	771.3	63.9	17.7	51	SSW	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	30.00	762.1	30.37	771.5	50.0	10.0	97	ENE	7.4	3.3	.....	.....	6	W	.....	0.008	0.2	.....	The Staff.
Ponta Delgada (Azores)	30.03	762.8	30.10	764.6	57.9	14.4	60	WNW	24.8	11.1	.....	.....	3	.....	.....	0.402	10.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Com'd't.
Duque da Terceira				J. C. M. Cabrate, 1st Lt.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto				H. de C. C. e Athayde.
Rio Duro				J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa				
Porto Praya, Cape Verd Ids.			D. clouds	A. de Souza Roza, 2nd Lt
Sá da Bandeira				F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello,				
St. Paul de Loando			D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	1	N	Raining, 4 hr's rain-fall	J. G. Felgo, 2nd Lieut.

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.38	771.6	30.40	772.1	13.3	—10.4	97	ESE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.68	779.3	30.60	777.2	14.5	— 9.7	71	ENE	11	5	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.34	745.1	29.87	758.7	13.1	—10.5	92	S	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Dorpat	30.02	762.4	30.27	768.9	31.3	— 0.4	79	SSW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.21	741.9	30.28	769.0	5.9	—14.5	76	WNW	13	6	.....	.....	1s	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	30.39	771.9	30.69	779.6	9.0	—12.8	74	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.36	771.2	30.38	771.7	26.2	— 3.2	96	ENE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.65	753.0	30.33	770.3	25.3	— 3.7	89	S	7	3	.....	.....	10kspn	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	30.26	768.7	30.79	782.0	12.7	—10.7	54	W	0	0	.....	.....	2s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.32	770.0	30.54	775.6	22.3	— 5.4	78	ESE	22	10	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.91	759.8	30.51	775.0	19.8	— 6.8	73	SSW	7.8	3.5	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.80	706.2	30.37	771.3	— 2.6	—19.2	81	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.34	770.6	30.41	772.4	30.6	— 1.1	74	E	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.81	757.2	30.06	763.5	27.7	— 2.4	63	NNE	7	3	.....	.....	9kn	.....	.....	Blank	Blank	.....	
Orenberg																			
Pekin (China)	30.12	765.1	30.26	768.7	30.9	— 0.6	73	Calm	0	0	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.25	768.4	30.27	768.8	25.2	— 3.8	91	SSE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.28	718.2	29.94	760.4	26.8	— 2.9	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.74	729.9	30.19	766.8	45.9	7.7	46	NW	22	10	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock																			
Warsaw	29.73	755.1	30.17	766.4	33.4	0.8	82	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.82	757.3	30.26	768.7	27.3	— 2.6	81	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	29.91	759.7	30.23	767.9	— 6.9	—21.6	81	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.14	765.5	30.24	768.2	52.7	11.5	56	SSE	2.7	1.19	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.25	768.3	30.30	769.7	59.2	15.1	55	SE	2.4	1.08	.....	0	0	.....	.....	0.094	2.4	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.35	694.6	.....	.....	45.5	7.5	65	S	2.0	0.89	.....	0	1	.....	.....	0.079	2.0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.10	713.8	30.41	772.4	46.8	8.2	83	SW	4.5	2.00	.....	1	1	NW	.....	0.020	0.5	Light clouds	The Staff.
Murcia, Met. Obs'y	30.16	766.0	30.30	769.8	62.6	17.0	40	NW	4.7	2.11	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.7	30.19	766.7	52.9	11.6	61	S	10.9	8.9	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.96	761.1	30.03	762.8	69.2	20.7	86	ESE	2.9	1.3	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.90	759.4	29.95	760.8	80.5	26.9	75	E	2.9	1.3	.....	.....	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.30	769.5	30.40	772.1	59.4	15.2	79	W	4.7	2.1	.....	2	5	S	W	0.008	0.2	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.05	763.2	30.14	765.5	75.2	24.0	84	E	13.6	6.09	.....	3cs	2c	E	E	0.020	0.50	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.23	767.8	30.27	768.8	18.7	— 7.4	.....	E	.....	.....	2	.....	9	.....	.....	0	0	.....	
Umea	30.20	767.1	30.25	768.4	24.1	— 4.4	100	NE	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	
Hernosand	30.20	767.0	30.25	768.3	28.0	— 2.2	87	N	.....	.....	2	.....	10	.....	.....	0.016	0.4	.....	
Stockholm	30.05	763.3	30.23	767.8	30.2	— 1.0	92	ESE	.....	.....	4	.....	10	.....	.....	0.110	2.8	Snowing.	
Wisby	30.02	762.5	30.08	764.0	35.2	1.8	85	SSE	.....	.....	2	.....	10	.....	.....	0.031	0.8	Light snow.	
Sub-Series.																			
Upsala	30.08	764.0	30.17	766.2	30.7	— 0.7	85	E	4.7	2.1	.....	.....	10	.....	E	0.013	0.34	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 15° 52', W. 81° 49'	.....	.....	29.96‡	761.0‡	77.7	25.4	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.82	732.1	30.29	769.3	41.5	5.3	64	N	.....	.....	3	.....	1	.....	.....	0.142	3.6	Clear	The Observatory.
Zurich	28.62	727.0	30.31	769.9	38.5	3.6	88	W	.....	.....	1	.....	8	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +5.7 mm.; Thermometer, +1.8 Cent. Relative Humidity, —8 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.24	768.0	45.0	7.2	61	ENE	14	6.5	.....	.....	6	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.07	763.8	60.1	15.6	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.04	762.9	58.1	14.5	56	N	.....	.....	3	.....	1k	.....	N	0.11	3.6	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.52	749.8	29.54	750.3	25	— 3.9	.....	Calm	0	0	.....	.....	10n	.....	.....	0.20	5.1	Cloudy	Hon. J. Ferguson.
Chatham, N. B	29.50	749.3	29.57	751.1	36.5	2.5	85	SW	7	3.1	.....	1k	8ks	SW	.....	0.39	9.9	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.54	750.3	29.59	751.6	37.2	2.9	89	W	10	4.5	.....	.....	10s	.....	.....	0.18	4.6	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.47	748.5	29.66	753.4	32.0	0.0	100	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.36	745.7	29.58	750.0	30.0	— 1.1	.....	W	.....	.....	1	.....	5n	.....	.....	0.40	10.2	Fair	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	19.7	— 6.8	92	SE	6	2.7	.....	3k	5s	W	.....	0.18	4.6	Clearing	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.66	753.4	40.1	4.5	88	SW	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.94	735.1	29.89	759.2	—18.0	—27.8	100	S	10	4.5	.....	0	0	.....	.....	0.172	43.7	Clear	James Stewart.
Granton, Ontario	28.49	723.6	29.62	752.3	32.0	0.0	100	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	29.55	750.6	29.68	753.9	40.0	4.4	93	W	6	2.7	.....	.....	10n	.....	.....	0.150	3.81	Cloudy	A. Allison.
Hamilton, Ontario	29.30	744.2	29.68	753.9	33.7	0.9	83	E	.....	.....	1	10cs	0	E	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.35	745.5	29.69	754.1	32.5	0.3	92	NE	2	0.9	.....	10cs	0	.....	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.54	750.3	29.58	751.3	39.2	4.0	79	S	7	3.1	.....	5k	0	S	.....	0.87	22.1	Fair	C. H. Rigby.
Montreal, Quebec	29.49	749.0	29.70	754.4	32.2	0.1	70	W	10	4.5	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.73	755.1	29.76	755.9	— 6.8	—21.6	92	W	.....	.....	2	.....	10n	.....	.....	0.30	7.6	Cloudy	J. R. Nelson.
Norwood, Ontario	28.93	734.8	29.65	753.1	29.1	— 1.6	89	NW	2	0.9	.....	10cs	0	SW	.....	0	0	Gloomy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.95	735.3	29.69	754.1	18.1	— 7.7	68	E	16	7.2	.....	.....	10n	.....	.....	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	28.89	733.8	29.66	753.4	29.0	— 1.3	77	NE	.....	.....	1	5k	0	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	28.93	734.8	29.64	752.8	35 0	1.7	80	NE	4	1.8	.....	.....	10n	.....	.....	0	0	Threatening	H. Morgan.
Port Stanley, Ontario	28.98	736.1	29.64	752.8	34.1	1.2	89	E	4	1.8	.....	.....	10ks	.....	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.36	745.7	29.70	754.4	31.0	— 0.6	95	NW	.....	.....	3	0	8s	.....	.....	0.30	7.6	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.24	742.7	29.73	755.1	15.1	— 9.4	65	Calm	0	0	.....	Haze	0	SW	.....	0	0	Fair	W. H. McIntyre.
St. John, N. B	29.48	748.8	29.65	753.1	37	2.8	100	S	8	3.6	.....	.....	10ks	.....	.....	0.40	10.2	Light fog	G. Murdock, C. E.
Saugeen, Ontario	28.96	735.3	29.69	754.1	27.0	— 2.8	90	E	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.31	719.1	29.62	752.3	31.0	— 0.6	88	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.50	749.3	29.64	750.3	38.3	3.5	91	SW	14	6.3	.....	.....	10n	.....	.....	0	0	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.28	743.7	29.68	753.9	32.2	0.1	85	NE	8	3.6	.....	.....	10n	.....	.....	0.33	8.4	Overcast	T. C. Hill, C. E.
Windsor, N. S	29.56	750.8	29.65	753.1	39.0	3.9	95	W	5	2.2	.....	.....	10ks	.....	.....	0	0	Cloudy	Magnetic Observatory
Woodstock, Ontario	28.54	724.9	29.63	752.6	33.0	0.6	95	NE	8	3.6	.....	.....	10s	.....	W	0	0	Fair	Prof. John E. Oram, M. A
Yarmouth, N. S	29.66	753.4	29.73	755.1	40.0	4.4	94	SW	4	1.8	.....	5k	5s	W	.....	0.13	3.3	Cloudy	Professor Wolverton.
Sub-Series.																			
St. Johns, Newfoundland	29.44	747.8	29.70	754.4	20	— 6.7	100	E	.....	.....	.....	.....	10	.....	.....	0.50	12.7	Snowing	Lt. F. E. Wilmot, R. N.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.45	748.0	30.9	— 0.6	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Commandant.
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.45	748.0	29.68	753.9	39	3.9	91	Calm	0	0	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Alpena, Michigan	29.04	737.6	29.70	754.4	24	— 4.4	87	NW	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.59	726.2	29.69	754.1	64	17.8	83	S	23	10.3	.....	5k	5s	SW	S	0.07	1.8	Cloudy.....	
Atlantic City, New Jersey	29.67	753.6	29.69	754 1	47	8.3	100	S	23	10.3	.....	8k	0	W	.....	0.48	12.2	Cloudy.....	
Augusta, Georgia	29.69	754.1	29.89	759.2	64	17.8	83	S	4	1.8	.....	0	8s	.....	S	0	0	Fair...	
Baltimore, Maryland	29.55	750.6	29.60	751.8	59	15.0	88	SW	15	6.7	.....	.....	10s	.....	SW	0.47	11.9	Cloudy.....	
Barnegat, New Jersey	29.64	752.8	29.66	753.4	47	8.3	100	SW	25	11.2	.....	5ck	5s	W	W	0.24	6.1	Cloudy.....	
Bismarck, Dakota	27.95	707.4	29.70	754.4	11	—11.7	79	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boerne, Texas	28.52	724.4	29.90	759.4	34	1.1	61	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.53	694.2	30.29	769.4	27	— 2.8	88	W	6	2.7	.....	0	2s	.....	W	0.02	0.5	Fair	
Boston, Massachusetts	29.57	751.1	29.72	754.9	46	7.8	100	Calm	0	0	.....	.....	10n	.....	Calm	0.18	4.6	Light rain...	
Brackettville, Texas	28.90	734.0	30.00	762.0	38	3.3	54	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.79	731.3	29.90	759.4	— 7	—21.7	100	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	29.97	761.2	30.02	762.5	59	15.0	82	NW	8	3 6	.....	0	2s	.....	Calm	0	0	Clear.	
Buffalo, New York	28.91	734.3	29.61	752.1	35	1.7	80	NE	11	4.9	.....	.....	10n	.....	SW	0.01	0.3	Light rain...	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.38	746.2	29.67	753.6	39	3.9	64	NE	9	4.0	.....	.....	10s	.....	SW	0.02	0.5	Cloudy.....	
Cairo, Illinois	29.13	739.9	29.52	749.8	41	5.0	91	N	14	6.3	.....	.....	10n	.....	NE	1.67	42.4	Light rain...	
Campo, California	27.61	701.3	30.18	766.6	22	— 5.6	72	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.95	760.7	63	17.2	89	SW	18	8.0	.....	2c	5ks	SW	SW	0	0	Cloudy.....	
Cape Henry, Virginia	29.77	756.1	29.79	756.7	65	18.3	78	SW	22	9.8	.....	2cs	5ks	SW	SW	0.05	1.3	Cloudy.....	
Cape Lookout, N. Carolina	29.95	760.7	29.97	761.2	62	16.7	94	SW	20	8.9	.....	2k	2s	SW	SW	0	0	Fair...	
Cape May, New Jersey	29.65	753.1	29.68	753.9	53	11.7	86	S	28	12.5	.....	.....	10ks	.....	S	0.66	16.8	Cloudy.....	
Castroville, Texas	29.24	742.7	29.98	761.5	39	3.9	55	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	29.95	760.7	29.98	761.5	65	18.3	94	S	20	8.9	.....	0	9s	.....	S	0	0	Cloudy.....	
Charleston, South Carolina	29.90	759.4	29.95	760.7	65	18.3	89	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	28.95	735.3	29.74	755.4	60	15.6	94	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Chattanooga, Tennessee	28.79	731.3	29.55	750.6	66	18.9	74	S	16	7.2	.....	2ck	2ks	SW	SW	0.39	9.9	Fair...	
Cheyenne, Wyoming	23.74	603.0	29.68	753.9	21	— 6.1	57	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Chicago, Illinois	29.09	738.9	29.80	756.9	29	— 1.7	78	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cincinnati, Ohio	28.98	736.1	29.61	752.1	49	9.4	85	N	4	1.8	.....	.....	10s	.....	Calm	1.44	36.6	Cloudy.....	
Cleveland, Ohio	28.89	733.8	29.62	752 3	35	1.7	90	NW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Coleman City, Texas	28.22	716.8	29.97	761.2	31	— 0.6	69	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28.77	730.7	29.58	751.3	50	10.0	79	NW	2	0.9	.....	.....	Fog	.....	Calm	0.67	17.0	Foggy.....	
Concho, Texas	28.13	714.5	29.89	759.2	31	— 0.6	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.44	747.8	29.92	760.0	36	2.2	71	NW	12	5.4	.....	.....	10ks	.....	Calm	0.05	1.3	Cloudy.....	
Davenport, Iowa	29.22	742.2	29.89	759.2	23	— 5.0	73	Calm	0	0	.....	0	8s	.....	W	0	0	Fair...	
Dayton, Washington T'y	.....	.....	.....	.....	29	— 1.7	83	SW	.....	.....	2	0	5s	.....	Calm	0.32	8.1	Fair	
Deadwood, Dakota	25.05	636.3	.....	.....	20	— 6.7	41	SW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair...	
Decatur, Texas	28.88	733.5	30.12	765.0	33	0.6	61	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.08	738.6	29.91	759.7	31	— 0.6	79	NW	17	7.6	.....	2k	2ks	NW	NW	0.15	3.8	Fair...	
Denver, Colorado	24.54	623.3	29.76	755.9	28	— 2.2	54	W	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Des Moines, Iowa	28.98	736.1	29.92	760.0	18	— 7.8	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	28.97	735.8	29.65	753.1	32	0.0	89	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dodge City, Kansas	27.33	694.2	29.82	757.4	8	—13.3	55	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Dubuque, Iowa	29.17	740.9	29.92	760.0	14	—10.0	62	NW	6	2.7	.....	0	5ks	.....	Calm	0	0	Fair...	
Duluth, Minnesota	29.22	742.2	29.98	761.5	— 6	—21.1	61	NW	3	1.3	.....	0	0	.....	.....	0.11	2.8	Clear.	
Eagle Pass, Texas	29.33	745.0	30.08	764.0	46	7.8	40	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	29 58	751.3	29.65	753.1	39	3.9	91	Calm	0	0	.....	.....	10s;snw	.....	W;Calm	0.21	5.3	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	28.86	733.0	29.57	751.1	39	3.9	91	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Escanaba, Michigan	29.12	739.6	29.81	757.2	16	— 8.9	66	NW	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Florence, Arizona	28.70	729.0	30.30	769.6	32	0.0	89	N	1	0.4	.....	0	0	.....	.....		0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	18	— 7.8	84	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.59	700.8	29.46	748.3	25	— 3.9	88	SE	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy.....	
Fort Custer, Montana	26.57	674.9	.....	.....	30	— 1.1	89	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Davis, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Gibson, Indian Ter	29.26	743.2	29.82	757.4	27	— 2.8	100	N	18	8.0	.....	.....	10n	.....	Calm	0.61	15.6	Heavy snow	
Fort Grant, Arizona	26.27	641.8	30.07	763.8	24	— 4.4	61	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.73	729 7	30.06	763.5	33	0.6	70	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	26.97	685.0	.....	.....	26	— 3.3	77	W	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.73	704.3	29.75	755.6	29	— 1.7	67	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.89	759.2	24	— 4.4	74	NW	18	8.0	.....	0	0	.....	.....	0.34	8.6	Clear.	
Fort Stevenson, Dakota	27.80	706.1	.....	.....	18	— 7.8	84	SW	6	2.7	.....	2k	0	S	.....	0	0	Fair...	
Fort Verde, Arizona	.....	.....	.....	.....	22	— 5.6	58	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.20	716.3	29.80	756 9	38	3.3	54	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	29.87	758.7	29.92	760.0	51	10.6	63	W	26	11.6	.....	.....	10s	.....	W	0.06	1.5	Cloudy.....	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.09	738.9	29.76	755.9	29	— 1.7	78	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.03	737.3	30.02	762.5	27	— 2.8	88	N	18	8.0	.....	0	2s	.....	N	0.07	1.8	Fair	
Indianapolis, Indiana	28.90	734.0	29.68	753.9	38	3.3	81	NW	8	3.6	.....	.....	10ks	.....	Calm	0.07	1.8	Cloudy.....	
Indianola, Texas	29.98	761.5	30.01	762.2	47	8.3	48	NW	32	14.3	.....	0	5s	.....	NW	0	0	Fair...	
Jacksboro, Texas	28.76	730.5	29.93	760.2	32	0.0	79	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.98	761.5	65	18.3	89	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.17	740.9	29.81	757.2	22	— 5.6	79	N	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Key West, Florida	30.02	762.5	30.05	763.3	73	22.8	85	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.87	758.7	29.90	759.4	63	17.2	89	SW	27	12.1	.....	2cs	0	NW	.....	0.10	2.5	Fair...	
Knoxville, Tennessee	28.65	727.7	29.60	751.8	64.5	18.1	81	SW	12	5.4	.....	.....	10ks	.....	SW	0.40	10.2	Cloudy.....	
La Crosse, Wisconsin	29.14	740.1	29.94	760.5	8	—13.3	78	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	20	— 6.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.60	751 8	29.94	760.5	52	11.1	73	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.04	737.6	29.92	760.0	24	— 4.4	74	N	9	4.0	.....	4cs	0	W	.....	0	0	Fair...	
Lewiston, Idaho	.....	.....	.....	.....	29	— 1.7	77	W	10	4.5	.....	5c	0	W	.....	0	0	Fair..	
Little Rock, Arkansas	29.23	742.4	29.58	751.3	50	10.0	72	SW	8	3.6	.....	0	8s	.....	SW	1.44	36.6	Cloudy.....	
Los Angeles, California	29.95	760.7	30.31	769.9	39.0	3.9	73	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.05	737.9	29.60	751.8	47	8.3	92	.N	7	3.1	.....	.....	10n	.....	Calm	1.68	42.7	Light rain...	
Lynchburg, Virginia	29.02	737.1	29.67	753.6	62	16.7	82	S	12	5.4	.....	.....	10ks	.....	SW	0.68	17.3	Clearing.....	
Madison, Wisconsin	28.78	731.0	29.84	757.9	11	—11.7	80	N	18	8.0	.....	0	5s	.....	N	0	0	Fair...	
Marquette, Michigan	29.08	738.6	29.83	757.7	14	—10.0	82	W	8	3.6	.....	.....	10s	.....	W	0.01	0.3	Cloudy.....	
Mason, Texas	28.37	720.6	30.20	767.1	34	1.1	76	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.17	740.9	29.50	749.3	50	10.0	88	E	11	4.9	.....	.....	10s	.....	SW	3.05	77.5	Cloudy.....	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.05	737.9	29.82	757.4	17	— 8.3	83	NW	12	5.4	.....	0	8s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	29.69	754.1	29.74	755.4	63	17.2	94	S	16	7.2	.....	.....	10s	.....	SW	0.08	2.0	Threatening	
Montgomery, Alabama	29.50	749.3	29.73	755.1	68	20.0	84	S	10	4.5	.....	5k	0	SW	.....	0.12	3.0	Fair	
Morgantown, West Virginia	28.73	729.7	29.70	754.4	51	10.6	79	SW	5	2.2	.....	.....	10s	.....	Calm	1.00	25.4	Cloudy	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	20	— 6.7	70	NW	48	21.5	.....	10k	0	NW	.....	0.02	0.5	Cloudy	
Nashville, Tennessee	29.00	736.6	29.52	749.8	58	11.7	100	S	2	0.9	.....	.....	10n	.....	Calm	2.63	66.8	Heavy rain	
New Haven, Connecticut	29.54	750.3	29.66	753.4	45	7.2	100	Calm	0	0	.....	.....	10n;fg	.....	Calm	0.54	13.7	Light rain	
New London, Connecticut	29.62	752.3	29.66	753.4	46	7.8	100	Calm	0	0	.....	.....	10n;fg	.....	Calm	0.34	8.6	Light rain	
New Orleans, Louisiana	29.76	755.9	29.82	757.4	60	15.6	70	NW	12	5.4	.....	.....	10s	.....	W	0.16	4.1	Cloudy	
Newport, Rhode Island	29.64	752.8	29.69	754.1	47	8.3	100	SW	1	0.4	.....	.....	10n;fg	.....	.....	0.20	5.1	Heavy rain	
New River, North Carolina	.....	.....	.....	.....	62	16.7	94	SW	.....	.....	2	.....	10n	.....	SW	.....	.....	Light rain	
New York, New York	29.48	748.8	29.66	753.4	48	8.9	100	NE	6	2.7	.....	.....	Fog	.....	Calm	0.59	15.0	Light rain	
Norfolk, Virginia	29.74	755.4	29.80	756.9	63	17.2	89	SW	21	9.4	.....	10ck	0	SW	.....	0.04	1.0	Cloudy	
North Platte, Nebraska	26.92	683.8	29.66	753.4	12	—11.1	71	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.24	768.1	30.28	769.1	34.0	2.2	85	S	11	4.9	.....	.....	10s	.....	Calm	0.94	23.9	Cloudy	
Omaha, Nebraska	28.71	729.2	29.87	758.7	18	— 7.8	68	NW	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Oswego, New York	29.36	745.7	29.68	753.9	40	4.4	82	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.83	732.3	29.77	756.1	—12	—11.1	100	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	29.77	756.1	29.80	756.9	67	19.4	95	S	18	8.0	.....	Haze	1s	Calm	S	0.01	0.3	Fair	
Philadelphia, Pennsylvania	29.55	750.6	29.60	751.8	57	13.9	94	SW	16	7.2	.....	.....	10ks	.....	SW	1.05	26.7	Cloudy	
Phœnix, Arizona	29.07	738.4	30.90	787.1	36	1.7	61	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.30	439.4	29.51	749.5	— 7	—21.7	59	NW	28	12.5	.....	2cs	0	Calm	.....	0.06	1.5	Clear	
Pilot Point, Texas	29.18	741.1	30.01	762.2	47	8.3	48	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.06	611.1	29.83	757.7	14	—10.0	64	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.79	731.3	29.58	751.3	48	8.9	93	SE	2	0.9	.....	.....	10s;fg	.....	SE;Calm	0.91	23.1	Cloudy	
Port Huron, Michigan	28.94	735.1	29.62	752.3	30	— 1.1	89	N	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Portland, Maine	29.60	751.8	29.65	753.1	43	6.1	83	SW	11	4.9	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Portland, Oregon	30.34	770.6	30.41	772.4	36.5	2.5	90	S	4	1.8	.....	0	8ks	.....	NW	1.06	26.9	Fair	
Portsmouth, North Carolina	.....	.....	.....	.....	63	17.2	89	SW	20	8.9	.....	5k	0	SW	.....	0	0	Fair	
Prescott, Arizona	24.82	630.4	30.18	766.6	2	—16.7	72	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.01	762.2	30.02	762.5	70	21.1	86	SE	10	4.5	.....	.....	0	5ks	.....	SE	0	0	Fair
Red Bluff, California	30.07	763.8	30.46	773.7	37	2.8	71	S	11	4.9	.....	1k	0	NW	.....	0	0	Clear	
Rio Grande City, Texas	29.92	760.0	30.15	765.8	54	12.2	26	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.01	736.8	29.62	752.3	37	2.8	81	E	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Roseburg, Oregon	29.91	759.7	30.51	774.9	37	2.8	90	E	1	0.4	.....	0	8s	.....	Calm	0.22	5.6	Fair	
Sacramento, California	30.38	771.6	30.46	773.7	35	1.7	75	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.12	739.6	29.71	754.6	29	— 1.7	78	N	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
St. Paul, Minnesota	29.04	737.6	29 94	760.5	5	—15.0	50	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.71	653.0	30.04	765.0	19	— 7.2	54	SW	2	0.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
San Antonio, Texas	29.55	745.5	29.96	761.0	46	7.8	56	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.25	768.3	30.33	770.4	39	3.9	82	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	28.98	736.1	29.65	753.1	40	4.4	82	NW	6	2.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Sandy Hook, New Jersey	29.70	754.4	29.73	755.1	48	8.9	100	S	6	2.7	.....	.....	Fog	.....	Calm	0.58	14.7	Dense fog	
San Francisco, California	30.42	772.7	30.48	774.2	43	6.1	83	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	29.13	587.5	29.67	753.6	9	—12.8	36	NW	10	4.5	.....	0	0	.....	.....	0.26	6.6	Clear	
Savannah, Georgia	29.87	758.7	29.97	761.2	65	18.3	89	SW	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	29.53	750.0	29.75	755.6	48	8.9	63	W	16	7.2	.....	.....	10s	.....	W	0.21	5.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.95	760.7	29.98	761.5	63	17.2	94	S	20	8.9	.....	5k	5ks	SW	SW	0	0	Cloudy	
Socorro, New Mexico	25.40	645.2	29.46	748.3	23	— 5.0	47	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29 06	738.1	29.76	755.9	27	— 2.8	76	N	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.56	750.8	29.69	754.1	42	5.6	91	S	2	0.9	.....	.....	10n	.....	.....	0.24	6.1	Light rain	
Stockton, Texas	27.01	686.0	30.01	762.2	24	— 4.4	74	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.66	753 4	29.72	754.9	43	6.1	100	SW	7	3.1	.....	.....	10n	.....	S	0.05	1.3	Light rain	
Toledo, Ohio	28.97	735.8	29.66	753.4	36	2.2	80	W	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Tucson, Arizona	27.72	704.1	30.27	768.8	31	— 0.6	89	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.96	761.0	30.48	774.2	33.5	0.8	75	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.16	740.7	30.01	762.2	39	3.9	73	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.47	748.5	29.73	755.1	53	11.7	73	SW	8	3.6	.....	.....	10s	.....	S	0.38	9.7	Cloudy	
Virginia City, Montana	24.02	610.1	29.50	749.3	18	— 7.8	37	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	30.04	763.0	30.44	773.2	30	— 1.1	89	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.51	749.5	29.62	752.3	60	15.6	82	S	16	7.2	.....	.....	10s	.....	SW	0.33	8.4	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	26	— 3.3	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.86	758.4	29.93	760.2	68	20.0	89	SW	18	8.0	.....	5k	5s	SW	SW	0.02	0.5	Cloudy	
Winnemucca, Nevada	25.80	655.3	30.16	766.1	30	— 1.1	78	SW	11	4.9	.....	.....	9s	.....	SW	0	0	Cloudy	
Wood's Holl, Massachusetts	29.67	753.6	29.71	754.6	46	7.8	92	S	2	0.9	.....	.....	10n	.....	.....	0.07	1.8	Light rain	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	30.15	765 8	30.31	769.9	36	2.2	45	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	76	24.4	74	NE	16	4.5	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	76	24.4	91	NE	.....	.....	2	3c	5k	E	.....	0	0	Fair	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.38	746.2	29.93	760.2	81	27.2	76	E	.....	.....	1	2c	.....	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.90	759.4	29.96	761.0	—34.0	—36.7	.....	NW	16	7.2	.....	4k	3s	N	NW	0	0	Clear	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Caster, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,828 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1.916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft. or 549(?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1.670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Yerde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	29.69‡	754.1‡			68	20.0	90	SW	15	6.7			10d		SW	0.22	51.6			Threatening	
Navy Yard, Portsmouth, N.H	29.68‡	753.9‡			38	3.3	81	SW	1	0.4			10							Cloudy	
Naval Hospital, Yokohama, Japan	30.08‡	764.0‡			40.5	4.7	23	N			5		0			0	0			Clear.	
Adams, Pichilinque Bay, Mexico*	30.09‡	764.3‡			59	15.0	76	N			2		0							Clear	
Colorado, New York, N. Y.	29.63‡	752.6‡			46	7.8		Calm	0	0			0			0.45	11.4			Foggy	
Constitution, Aspinwall, Panama	29.93‡	760.2‡			75	23.9	90	SSE			1		5					Light	NE	Fair	
Enterprise. Villafranca, France	30.09‡	764.3‡			59	15.0	70	ESE			1		1		E			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.86‡	758.4‡			65	18.3	84	SSW	15.5	6.9			8		SSW	0.01	0.3			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.46‡	773.7‡			40	4.4	82	Calm	0	0			0			0	0			Clear	
Kearsarge, Shephard's Harbor, Chiriqui	29.98‡	761.5‡			74	23.3	86	S			1		2		S			Smooth		Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.47‡	773.9‡			42	5.6	91	Calm			0		0							Clear	
Marion, S. 34° 31′, W. 51° 20′	29 90‡	759.4‡			74	23.3	63	SW			3		0			0	0	Smooth		Clear	
Michigan, Erie, Pa	30.05‡	763.3‡			37	2.8	90	SE			1		10		SE					Cloudy	
Monocacy, Shanghai, China	30.26‡	768.6‡			41	5.0	91	E			1–2		10		NNE					Overcast	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			64	17.8	94	SW	16	7.2			2		Calm	0	0			Clear	
Nipsic. N. 17° 44′, W. 64° 58′	30.13‡	765.3‡			77	25.0	73	NE			4		2		NE			Mod'ate	NE	D. clouds	
Onward, Callao, Peru	29.91‡	759.7‡			71	21.7	90	Calm			0		8					Long	W	Fair	
Palos, Tientsin, China	30.27‡	768.8‡			33	0.6	79	Calm			0		0							Clear	
Passaic, Washington, D. C.	29.64‡	752.8‡			58	14.4	88	SW			4		10		SW					Cloudy	
Pensacola, Callao, Peru	29.89‡	759.2‡			71	21.7	85	Calm			0							Smooth		Hazy	
Powhatan, Off Norfolk, Va.	29.83‡	757.7‡			65	18.3	78	SSW			5		8		SW	0	0			Squally	
Quinnebaug, Leghorn, Italy	30.06‡	763.5‡			55	12.8	81	NE			2		8		S					Fair	
Ranger. Mare I'd, Navy Yard, Cal.	30.47‡	773.9‡			50	10.0	86	SE			0–1		0					Smooth		Clear	
Richmond, Hong-Kong, China	30.08‡	764.0‡			59	15.0	94	E			4		10					Smooth		Rainy	
Rio Bravo, Brownsville, Texas	30.18‡	766.6‡			59	15.0	93	N	4	1.8			5		S	0	0			Fair	
Santee. Annapolis, Md	29.64‡	752.8‡			48	8.9	??	SSW			5		8		SW	0.02	0.5			Cloudy	
Shenandoah, Montevideo, Uruguay	29.88‡	758.9‡			74	23 3	68	E			3		5		E			Smooth		Fair	
St. Louis, League Island, Pa.	29.63‡	752.6‡			54	12.2	87	SSW	30	13.4			8		SW	1.15	29.2			Cloudy	
Swatara, N. 35° 41′, W. 9° 12′	30.32‡	770.1‡			61	16.1	94	SE			1		2		Calm			Long	NW	Clear	
Tennessee, Norfolk, Va.	29.82‡	757.4‡			65	18.3	78	SSW	8	3.6			6		SSW	0	0			D. clouds	
Trenton, Toulon, France	30.06‡	763.5‡			61	16.1	40	SW			1		2			0	0			Clear	
Tuscarora, La Libertad, San Salvador	29.94‡	760.5‡			78	25.6	65	NE			0–1		8†		Calm	0	0	Long	S;E	Clear†	
Wabash, Boston, Mass.	30.00‡	762.0‡			38	3.3	100	S	10	4.5			10			0.03	0.8			Rainy	
Wachusett, Montevideo, Uruguay.†	30.43‡	772.9‡			69	20.6	80	E			3		0					Smooth	E	Fair	
Wyoming, Naples, Italy	30.03‡	762.7‡			57	13.9	81	Calm			0		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft. or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 51° 26′, W. 34° 50′...†	29.43‡	747.5‡	32	0.0		NNW			9		8		NNW			Heavy	NNW	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton Moville, Ireland	29.93‡	760.2‡				SE			6		5		SW					Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Locust Point, Md.	29.61‡	752.1‡	59	15.0		SSW			6		10		SW					Cloudy	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 50° 15′, W. 17° 38′	28.86‡	733.0‡	52	11.1	70	SSW			0		9		SSW	Heavy	Heavy	Heavy	SSW	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 27° 55′, W. 110° 50′...†	30.21‡	767.3‡				WNW			3		0							Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 50° 32′, W. 0° 42′	30.24‡	768.1‡	45.5	7.5	88	W			1		5?		SW	0	0	Smooth	W	Clear?	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 28° 10′, E. 125° 16′	30.19‡	766.8‡	60	15.6	82	S			3		2		S			Smooth		Clear	D. A. Joyce.
S. S. Gaelic, W. H. Kidley,																			J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander... San Francisco, Cal...†	30.48‡	774.2‡	47	8.3		Calm			0		0			0	0			Clear	
S. S. Idaho, E. Alexander...																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 14° 47′, W. 93° 02′....†.	29 92‡	760 0‡	78	25.6	100	ESE			1		1		E	0	0	Light	SSW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann, N. 44° 01′, W. 124° 48′...†.	30.42‡	772 7‡	44	6.7		S			3		2		SW			Heavy	NW	Fair	E. Polemann.
S. S. City of Panama, M. Connolly, N. 17° 84′, W. 101° 40′...†.	29.89‡	759.2‡	73	22.8		E			2		2		SSW	0	0	Mod'ate	E	Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury N. 32° 07′, E. 133° 56′....†.	29 95‡	760.7‡	68	14.4	76	NE			6		10			0	0	Mod'ate	NE	Misty	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths N. 38° 21′, W. 123° 22′....†.	30.47‡	773.9‡	51	10.6		Var.			2		8		Calm	Light	Light	Mod'ate	W	Hazy	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest.																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes.																			

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,... ..																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 41° 56′, E. 95° 03′....†.	29.98‡	761.5‡	59	15.0		E			4		10		E			Smooth		Rainy	B. F. Woodbury.
Brigantine George, W. H. Champlin. N. 34° 30′ W. 72° 35′.....	30.19‡	766 8‡	69	20.6		SW			5		2		WSW	Blank	Blank	Rough	SW	Squally	
Iron Cross, W. Randall, N. 35° 00′, W. 18° 35′..	30 28‡	769.1‡	62.8	17.1	83	SW			5–6		7		SW	0	0	Long	WNW	Squally	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 211 Tremont St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 14, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.22	767.5				NW			1		2			0	0	Fair	
Nemours			30.21	767.4	62.1	16.7	75	NNW			1		2			0	0	Fair	Kesxuche.
Algiers			30.21	767.2	57.2	14.0	57	ENE			2		0			0	0	Clear	Tourilliere.
La Calle			30.15	765.9	59.2	15.1	72	NW			2		5			0.180	3.3	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.13	765.2															Gau.
Saida			30.24	768.0															Herbin.
Tebessa			30.21	767.2	42.3	5.7	91	NNW			4		10			0.161	4.1	Covered	Watrin.
Geriville																			Brugniaux.
Laghouat			30.24	768.2	52.2	11.2	63	NNE			2		2			0	0	Fair	Bertrand.
Biskra			30.17	766.3	66.2	19.0	49	WNW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.67	753.6	30.25	768.3	36.1	2.3	78	SW			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.44	747.7	30.24	768.1	35.2	1.8	95	W	8.5	3.8			10			0.240	6.1		Dr. Wierzbicki.
Eperies	29.26	743.3	30.19	766.7	34.7	1.5	98						10			0	0	Foggy	Julius Mikolik.
Gratz	28.97	735.8	30.27	768.8	39.7	4.3	79	S			2		10			0	0		Andreas Rospini.
Hermannstadt	28.74	730.0	30.22	767.5	40.6	4.8	86	ESE			1		10			0.031	0.80		Prof. A. Gottschling.
Kremsmünster, Observatory	28.83	732.2	30.23	767.8	35.8	2.1	100	NNE			1		10			0.142	3.6		The Staff.
Lemberg	29.14	740.2	30.17	766.3	38.5	3.6	82	NW			1		9			0.110	2.8		Dr. T. Stanecki.
Pola	30.06	763.4	30.17	766.3	48.2	9.0	72	W			1		3			0	0		I.R. Hydrographic Office.
Szathmar	29.80	756.8	30.28	769.2	36.2	1.8	88	W			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.96	760.9	30.25	768.3	38.7	3.7	88	Calm			0		10			0.173	4.40		Karl Stancel.
Trieste	30.01	762.2	30.19	766.8	48.2	9.0	49	E			1		0			0	0		P. Busin.
Vienna	29.52	749.7	30.25	768.4	41.4	5.2	69	N			1		6			0.154	3.9		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.89	759.1	30.09	764.3	42.4	5.8	69	SSE			2	8		W		0.012	0.3		Royal Observatory.
Furnes	9.99	761.8	30.02	762.4	42.3	5.7	80	WSW			5		9			0.106	2.7		M. E. de Cae.
Maeseyck	30.04	763.0	30.17	766.2	40.8	4.9	81	S			2		3			0	0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C. as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.51	749.5	29.61	752.1	40.4	4.7	.....	SSE	26	11.6	.....	.....	9	.....	.....	0.100	2.54	Raining	W. Boswell.
Ardrossan	29.48	748.8	29.60	749.3	47	8.3	.....	SSW	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky	G.Carrick.
Armagh, (Observatory)	29.28	743.7	29.51	749.5	48.0	8.9	.....	SSW	19	8.5	.....	.....	4	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.65	753.1	47.6	8.7	.....	SE	14	6.3	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	29.12	739.6	29.63	752.6	44.0	6.7	.....	SSW	22	9.8	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.28	743.7	29.68	753.9	43.2	6.2	91	SW	.....	.....	1	.....	10	.....	.....	0.08	2.0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.96	761.0	30.00	762.0	78	25.6	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C.
Cambridge (Observatory)	29.73	755.1	29.83	757.7	43.0	6.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.80	756.9	43.0	6 1	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chetham (School M. E.)	29.74	755.4	29.87	758.7	49.1	9.5	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	F. Magauran, Q. M. S'gt., R.E
Dundee	29.50	749.3	29.64	750.3	50	10.0	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.90	759.4	29.93	760.2	42	5.6	.....	S	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast	J. Costello.
Falmouth (Observatory)	29.52	749.8	29.75	755.5	47.0	8.3	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, Natal	27.63	701.8	29.84	757.9	69.6	20.9	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs,A.H.C
Free Town, Sierra Leone	29.64	752.8	29.87	758.7	87	30.6	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.47	748.5	45	7.2	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	M. O'Donaghue.
Gibraltar, Mediterranean	30.10	764.5	30.16	766.1	61.4	16.3	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Corp'l S. Cordue,A.H.C.
Glasgow, (Observatory)	29.31	744.5	29.51	749.5	47.9	8.8	.....	S	.....	.....	4	.....	7k	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.92	760.0	29.93	760.2	39	3.9	.....	S	.....	.....	5	.....	8	.....	.....	.....	.....	Gloomy	G. T. Watson.
Greenwich (Royal Obs'y)	29.68	753 9	29.86	758.4	43.3	6.3	.....	SSE	.....	.....	.....	.....	10	.....	.....	.....	.....	Raining	The Staff, for G.B.Airy.
Guernsey	29.60	751.8	29.82	757.4	46	7.8	.....	SSW	.....	.....	5	.....	8	.....	.....	.....	.....	D clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.90	759.4	30.02	762.5	51	10.6	.....	S	.....	.....	6	4ck	.....	.....	.....	0.02	0.5	Showery	M. P. Moyle.
Holyhead	29.54	750.3	29.61	752.1	50	10.0	.....	SSW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.58	751.3	29.88	758.9	43.0	6.1	.....	SSW	.....	.....	5	.....	10	.....	.....	Blank	Blank	Threatening	J. Fisher.
Kew (Observatory)	29.81	757.2	29.84	757.9	43.2	6.2	.....	S	21	9.4	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
Leicester (Museum)	29.50	749.3	29.75	755.6	43.0	6.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	61	16.1	.....	NE	.....	.....	.....	6ck	.....	.....	.....	.....	.....	D. clouds	A. King.
Nairn	29.37	746.0	29.46	748.3	46	7.8	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.12	765.0	73.0	22.8	.....	S	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.58	751.3	29.77	756.1	43.1	6.2	.....	.....	.....	.....	4	.....	10d	.....	S	0.083	2.11	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.20	741.7	29.73	755.1	42.1	5.6	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen J. Whitty.
Oxford (Radcliffe Obs'y)	29.56	750.8	29.82	757.4	42	5.6	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.66	753.4	29.74	755.4	49.7	9.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	John Merrifield.
*Roche's Point	29.52	749.8	29.60	751.8	46	7.8	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	29.50	749.3	29.66	753.4	48	8.9	.....	SSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.50	749 3	41.5	5.3	.....	SE	42	18.8	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.14	765.5	30.21	767.3	44.8	7.1	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Serg't W. H. Lyne.
Sheffield	29.46	748.3	29.74	755.4	42.9	6.1	.....	SW	.....	.....	1	.....	10	.....	.....	0.25	6.3	Overcast	W. F. Cooper.
Silloth Rectory	29.58	751.3	29.61	752.1	47.5	8.6	77	SW	.....	.....	6	.....	5	.....	.....	0	0	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.65	753.1	44.9	7.2	.....	S	20	8.9	.....	.....	10	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Strathfield, Turgiss	29.60	751.8	29.82	757.4	42.0	5.6	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.68	753.9	29.74	755.4	54	12.2	.....	SW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.55	750.6	29.57	751.1	45.2	7.3	.....	W	20	8.9	.....	.....	6	.....	.....	.....	.....	Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.10	764.5	30.14	765.5	71.4	21.9	53	S	17.9	8.0	.....	1c	4ks	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2	.....	.....	74	23.3	.....	SE	.....	.....	.....	6kn	8kn	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	56	13.3	.....	SW	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.82	757.4	66.0	18.9	82	SW	.....	.....	4	.....	5k	.....	.....	0.02	0.5	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(Restalrig Park)Sc'tl'd	.....	.....	29.58	751.3	45.0	7.2	.....	SW	.....	.....	3	.....	10k	.....	.....	0	0	Heavy clouds	C. Meldrum.
Mauritius (Observatory)	29.79	756.7	29.98	761.4	79.0	26.1	75	E	14.5	6.5	.....	1	6	.....	ESE	0.03	0.8	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	65.0	18.3	68	SSW	11	4.9	.....	.....	5	.....	.....	0.01	0.3	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.24	742.7	46	7.8	.....	SSE	.....	.....	8	.....	10	.....	.....	0.02	5.	.....	.....
North Unst, Shetland Is	.....	.....	29.72	754.9	.....	.....	.....	SSE	.....	.....	6	10	10	SE,	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 37° 01′ W. 27° 39′	.....	.....	29.82‡	757.4‡	69	20.6	.....	WNW	.....	.....	6	.....	10	.....	.....	7	NE	Drizzling	Capt. Thos. Young.
City of Cashmere, S. 16° 32′, W. 37° 21′	.....	.....	30.03‡	762.7‡	82	27.8	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Bqte Fylde, N. 35° 48′, W. 69° 40′	.....	.....	29.96	761.0	.....	.....	.....	SW	.....	.....	7	.....	7	.....	.....	7	SW	D. clouds	Capt. L. C. Dart.
S. S. German, S. 34° 29′, E. 24° 38′	.....	.....	30.09‡	764.3‡	66	18.9	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 27° 08.′ E. 52° 25′	.....	.....	30.10‡	764.5.	79.9	26.6	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt.J.P.Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.22	666.0	29.94	760.5	64.0	17.8	78	SE			2		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.16	766.0	30.21	767.2	35.1	1.7	96	Calm			0		10					Foggy	
Farõe	30.16	766.0	30.18	766.5	35.1	1.7	91	S			4		10						
Godthaab (Greenland)	29.15	740.5	29.20	741.6	—12.6	—10.8	93	NE			4		9						
Stykkisholm (Iceland)	28.78	731.0	28.82	732.1	41.0	5.0	81	SE			8		8						
Thorshavn (Farõe)	29.40	746.7	29.43	747.6	43.9	6.6	87	SE			8		9						
Vestervig	30.05	763.2	30.16	766.0	35.4	1.9	95	S			4		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.2	30.01	762.2	44.6	7	71	SSW			3	8	W	NW	0.008	0.2	Very cloudy		Collignon, Director.
Amiens, Normal School	29.91	759.8	30.03	762.8	43.2	6.2	82	SE			1	5		E	0	0	Cloudy		Vaillant, Director.
Arras, Engin'r School	29.78	756.5	30.05	763.2	41.4	5.2	78	S			3	n		S	0	0			Klein, Commandant.
Avignon, Normal School	30.09	764.3	30.17	766.3	54.7	12.6	52	N			1	0			0	0	Very clear		Giraud, Director.
Bar-sur-Seine	29.52	749.8	30.09	764.3	44.2	6.8	67	SSE			1	5cn		SW	0.008	0.2	Very cloudy		C. Saillard, Director.
Beauvais, Normal School	29.76	755.9	30.03	762 8	44.1	6.7	76	S			1	10			0	0	Covered		Frère Eugene Marie.
Besançon, Normal School	29.23	742.5	30.15	765.8	41.0	5	66	S			1	2		W	0	0	Slightly cld'y		A. Carré, Director.
Bordeaux	29.77	756.1	29.97	761.1	53.4	11.9	43	SSE			1	5			0	0	Cloudy		M. Rayet, Director.
Bourg-en-Bresse, N. School	29.28	743.8	30.27	768.9	43.5	6.4	67	S			1	5c		N	0	0	Cloudy		Marlot, Director.
Bourges, Normal School	29.53	750.1	30.10	764.5	42.4	5.8	88	SE			1	5ck		SE	0.020	0.5	Cloudy		M. Gence, Director.
Brest, Naval Observatory	29.61	752.0	29.85	758.2	52.9	11.6	90	SW			1	4		SW	0.197	5.00			Ch. de Rermaree, Dir.
Caen, Normal School	29.84	757.8	29.91	759.8	44.6	7	78	W			1	10		W			Raining		M. Bletrin, Director.
Carcassonne, N. School	29.64	752.8	30.00	763.4	50.7	10.4	61	E			4	1		W	0	0	V. slightlycloudy		September, Director.
Châlons-sur-Marne, N. Sch'	29.77	756.2	30.10	764.5	42.8	6.0	70	SSE			1	5			0	0	Cloudy		Jadot, Director
Chartres, Normal School	29.38	746.2	30.02	762.6	45.7	7.6	81	SW			2	7	E	SSW	0	0			E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.65	727.7	30.02	762.4	52.2	11.2	46	S			2	5			0.024	0.6			Alluard, Director.
Commercy, Normal School	29.26	743.1	30.15	765.8	39.6	4.2	77	E			1	2ck		E	0	0	Slightly cld'y		Dr. Coullet, Director.
Commune de Gréasque*	29.06	738.1	29.81	757.1	54.0	12.2	52	SE			3		5	S	0	0			Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.38	746.3	30.17	766.4	43.2	6.2	78	NNW			1	2c			0	0	Clear		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.70	754.4	29.92	760.0	51.1	10.6	89	SE			1		10		0	0	Covered		Mouillot, Director.
Le Mans, Normal School	29.68	753.9	29.99	761.8	46.4	8	61	S			3		8	W	0	0	Very cloudy		Poirrier, Director.
Lons-Le-Saulnier, N. School	29.28	743.7	30.21	767.3	50.5	10.3	68	S			4		5cs		0	0	Cloudy		A. Baudry, Director
Lorient, Naval Observatory	29.78	756.4	29.89	759.2	45.3	7.4	95	SSW			2		10	S	0.157	4.0	Covered		Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.49	749.1	30.14	765.5	46.2	7.9	82	SE			1		5cn	W	0	0	Fair		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.88	758.9	30.15	765.8	56.8	13.8	78	SSE			1-2	6		SE	0	0			E. Stephan, Director
Mirecourt, Normal School	29.04	737.5	30.10	764.5	39.9	4.4	67	SE			1	2			0.20	5.	Slightly cov.		Barbier, Director.
Mont-Louis	29.83	630.6	30.14	765.6	36.9	2.7	53	W			4	7		SW	0	0			M. Cave, for Dr. Fines.
Nice	30.13	765.3	30.17	766.2	55.4	13.0	71	SE			3	5	NW	SE	0	0	Cloudy		Capt. Boissière, Director.
Nismes, Normal School	29.95	760.7	30.15	765.9	50.8	13.8	71	E			3	1		E	0	0	Clear		M. Boyer, Director.
Perpignan	30.00	762.0	30.11	764.7	51.6	10.9	64	SE	16.8	7.5		2	NW	NE	0	0			Dr. Fines.
Pic du Midi (Plantade) H. P.	22.47	570.7			35.2	1.8						1		NNW	0	0	Clear		M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.08	738.7	30.17	766.2	49.6	9.8	76	N			1		n		0	0			M. Tallieu
Puy de Dome (Summit) Obs	25.12	638.0			32.9	0.5	81	WSW			1	8		W	0	0			Alluard, Director.
Rochefort, Naval Obs'y	30.00	762.0	30.03	762.8	51.3	10.7	70	S			2	5	S	S	0	0	½ covered		Lt E. Decante, Director
Rouen, Normal School	29.90	759.4	29.98	761.6	48.2	9.0	91	SE			1	10			0	0	Covered		Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.8	29.87	758.6	44.4	6.9	88	S			4	8	SSW	SSW	0.018	0.45	Very cloudy		Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.3	30.06	763.5	46.2	7.9	66	SE			2	8		W	0	0	Very cloudy		E. Renou, Director.
Tarbes, Normal School	28.93	734.8	29.98	761.6	61.7	16.5	31	W			1				0	0			T. Huguet, Director
Toulouse, Observatory	29.32	744.8	30.05	763.2	50.7	10.4	68	SSE			4	2			0	0	Slightly cld'y		B. Baillaud, Dir.
Tours	29.80	756.8	29.99	761 8	47.8	8.8	55	SE			1	8		W	0	0	¾ covered		M. de Tastes.
Versailles, Observatory	29.54	750.2	30.03	762.7	44.2	6.8	62	S			2	10			0	0	Clearing		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.41	747.0	30.14	765.6	42.8	6	88	ESE			1	2		W	0	0	Slightly cld'y		Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.0	30.07	763.7	75.2	24									0.31	8.			L'Abbé Marchési
Paris, Montsouris Obs'y	29.77	756.1			45.0	7.2	62	S			2	9		SW	0	0			Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.08	764.1	30.11	764.7	41.0	5.0	90	WNW	12.5	5.6		10			0.366	9.3	Covered		Marc Dechevrens, J.S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 306.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.35	745.5	30.22	767.6	40.5	4.7	55	SE			4	4ck		S		0	0		Prof. Dr. Hoh.
Berlin	30.06	763.5	30.24	768.1	37.0	2.8	89	NW			1		10			0.008	0.2		Prof. Dr. Arndt.
Breslau	29.71	754.5	30.24	768.1	33.1	0.6	98	WNW			3		10			0.331	8.39	Rainy	Royal University Obs'y
Carlsruhe	29.78	756.3	30.22	767.5	43.5	6.4	61	E			4		0			0	0		Albert Senz.
Cassel	29.58	751.3	30.19	766.8	40.3	4.6	70	S			1		0			0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.90	759.5	30.28	769.2	42.8	6.0	53	ESE			0		0			0	0		Physical Society.
Friedrichshafen	28.73	729.8	30.24	768.0	34.0	1.1	60	WNW			1		10			0	0	Foggy	Chief Telegrapher Wilhelm.
Hamburg	30.17	766.4	30.24	768.2	35.2	1.8	90	S			2		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.21	767.3	30.23	767.7	39.6	4.2	85	W			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.01	762.3	30.10	764.5	29.7	— 1.3	90	NE			4		10			0.185	4.7	Snowing	Prof. E. Luther.
Köslin			30.18	766.5	34.7	1.5		Calm			0		8			0	0		H. Müller.
Leipsic Observatory	29.83	757.7	30.27	768.8	38.1	3.4	82	SSE			1		5	S		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.07	763 7	30.30	769.5	39.4	4.1	77	WSW			1		0ks			0	0		Dr. Assmann.
Memel	30.10	764.5	30.15	765.7	32.2	0.1	92	ENE			3		10n					Light snow	Reinbrecht & Issermann
Munich (München)	28.34	719.8	30.21	767.4	35.6	2.0	65	NE			3		10	NE		0.079	2.0	Snowing	Dr. C. Lang.
Neufahrwasser	30.10	764.6	30.12	765.0	31.8	— 0.1	94	N			3		10			0.390	9.9	Snowing	A. Lothes.
Neustadt (Palatinate)	29.64	752.9	30.17	766.3	42.4	5.8	70	SSE			0		1	S		0	0		Reallehrer Dicknether.
Posen	29.89	759.3	30.20	767.0	34.7	1.5	100	NW			4		10			0.039	1.0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.63	752.6	30.19	766.9	43.9	6.6	61	Calm			0		5	NNW		0	0		Imp. University Observatory.
Stuttgart	29.21	741.9	30.18	766.5	43.2	6.2	49	SE			2		3	W		0	0		Prof. Dr. Schoder.
Thorn	29.97	761.3	30.16	766.1	33.1	0.6	100	NW			2		10			0.417	10.6	Snowing	Dr. Cunerth.
Weissenburg (Bavaria)	28.68	728.5	30.27	768.8	37.8	3.2	62	E	0.7	0.3			8k		W	0	0		Reallehrer J. Hopfner.
Wustrow	30.22	767.6	30.24	768.2	32.4	0.2	100	WSW			3		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.78	756.5	30.18	766.6	52.5	11.4		NE			3.0		5					¼ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.85	758.3	29.91	759.6	74.0	23.3	39	NW	5	2.2			4			0	0	D. clouds	
Deesa	29.38	746.2	29.85	758.3	80.4	26.9	19	W	7.4	3.3			0			0	0	Blue sky	
Bombay	29.81	757.1	29.84	758.0	76.9	24.9	71	W	8	3.6			6	NNW		0	0	D. clouds	
Poona (Yarrowda)	27.96	710.2	29.80	757.0	82.0	27.8	25	W	16	7.2			4	WSW		0	0	D. clouds	
Belgaum	27.30	693.5	29.83	757.7	77.7	25.4	50	W	9	4.0			4	S		0	0	D. clouds	
Lahore	29.14	740.0	29.91	759.7	61.6	16.4	42	Calm	1.9	0.8			0			0	0	Blue sky	
Roorkee	29.06	738.1	29.99	761.8	63.6	17.6	53	NW	3.1	1.4			10			0	0		
Agra	29.32	744.6	29.10	759.3	69.7	20.9	42	S	2.4	1.1			2			0	0		
Nagpur	28.74	730.1	29.78	756.3	85.0	29.9	38	SE	4.2	1.9			0			0	0	Blue sky	
Jubbulpore	28.44	722.5	29.81	757.2	78.8	26.0	45	E	2.1	0.9			0			0	0	Blue sky	
Lucknow	29.51	749.6	29.90	759.5	66.5	19.2	62	Calm	0.3	0.1			10			0	0	Overcast	
Allahabad	29.59	751.6	29.92	759.8	63.0	17.2	67	Calm	0.6	0.3			10		SW	0	0	Overcast	
Patna	29.74	755.3	29.92	760.0	68.9	20.5	48	Calm	0.8	0.4			4	W	W	0	0	D. clouds	
Hazaribagh	27.84	707.2	29.90	759.5	66.8	19.3	34	NW	3.6	1.6			4			0	0		
Cuttack	29.79	756.6	29.87	758.7	78.8	26.0	70	SSW	0.9	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.86	758.5	29.88	759.0	73.6	23.1	65	WSW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.52	749.7	29.92	759 9	68.2	20.1	58	Calm	1.6	0.7			0			0	0	Blue sky	
Chittagong	29.82	757.4	29.91	759.8	73.8	23.2	59	NE	3.1	1.4			0			0	0		
Sibsagar	29.61	752.1	29.96	761.0	63.4	17.4	81	SSE	1.5	0.7			5			0	0	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.78	756.3	30.20	767 0	48.6	9.2	45	E	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.69	754.1	30.23	767.9	39.6	4.2	92	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.09	764.3	30.21	767.2	47.5	8.6	61	NNE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.28	743.6	30.22	767.5	43.9	6.6	81	SE	1.3	0.6	.....	.....	3	E	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.95	760.6	30.14	765.6	48.6	9.2	51	N	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.25	717.5	30.21	767.2	39.9	4.4	68	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.13	765.4	30.19	766.7	40.6	4.8	97	NW	18.6	8.3	.....	.....	3	NW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.89	759.3	30.16	766.0	52.7	11.5	52	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.10	764.5	30.19	766.8	52.9	11.6	54	NNE	6.1	3.6	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.93	760.1	30.11	764.7	53.2	11.8	62	N	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.85	758.2	30.11	764.9	50.7	13.7	84	N	4.9	2.2	.....	.....	8	N	.....	0.130	3.3	.....	Prof. C. De Giorgi.
Cosenza	29.18	741.1	30.08	763.9	52.2	11.2	76	NE	0	0	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. D. Conti.
Cagliari	29.89	759.2	30.09	764.3	56.5	13.6	51	NW	.....	.....	2	.....	2	NE	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.7	30.05	763.2	54.9	12.7	85	Calm	0	0	.....	.....	10	.....	.....	1.130	28.7	.....	Prof. G. Cincciatore.
Syracuse	29.97	761.3	30.02	762 4	57.7	14.3	89	E	16.8	7.5	.....	.....	10	NE	.....	0.020	0.5	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.7	30.09	764.3	48.6	9.2	90	N	1.3	0.6	.....	.....	10	.....	.....	0.035	0.9	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 550 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.25	768.3	30.26	768.6	44.5	6.9	77	SW	2.9	1.3	.....	.....	10s	.....	.....	0.104	2.64	Gloomy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.93	760.2	30.14	765.5	56.4	13.6	66	SE	15.5	6.9	.....	.....	10s	.....	.....	0.180	4.57	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.26	768.6	30.33	770.4	42.9	6.1	84	SSE	4.9	2.2	.....	.....	0	.....	.....	0	0	Clear.	The Staff.
Wakayama	30.24	768.1	30.29	769.3	44.2	6.8	80	E	8.7	1.6	.....	.....	10s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	R. Banda, C. E.
Guadalajara	25.05	636.2	30.30	769.6	37.4	3.0	43	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.42	620.3	30.19	766.7	52.9	11.6	71	NW	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mazatlan	29.78	756.5	30.05	763.3	54.0	12.3	91	Calm	.....	.....	0	1s	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	22.99	584.0	30.09	764.3	46.4	8.0	68	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.14	613.1	.....	.....	57.7	14.3	48	SE	.....	.....	3	4k	0	SW	.....	0	0	Blue sky	M. Fena, M. D.
Pabellon (Aguascalientes)	23.92	607.5	30.01	762.2	47.3	8.5	31	NW	.....	.....	1	1c	0	SW	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.7	30.24	768.0	46.4	8.0	51	E	0.2	0.1	.....	.....	2ck	.....	S	0	0	Clear.	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.45	773.4	39.6	4.2	53	N	.....	.....	2	0	0	.....	.....	0	0	Clear.	G. Barroeta, M. D.
Tlacotalpam	30.03	762.8	30.04	763.1	66.4	19.1	72	W	.....	.....	1	.....	10	.....	E	0	0	Covered.	Prof. M. M. Chazaro.
Vera-Cruz	30.02	762.5	30.05	763.2	68 0	20.0	64	Calm	0	0	.....	.....	10n	.....	.....	0	0	Covered.	Prof. J. Rossell.
Zacatecas	22.56	573.0	30.27	768.9	48.2	9.0	55	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear.	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.8 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.07	763.8	30.07	763.8	40.3	4.6	.....	SSE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.10	764.4	30.15	765.8	38.1	3.4	.....	S	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	30.08	763.9	30.08	763.9	36.9	2.7	.....	SSE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.08	763.9	30.08	763.9	40.8	4.9	84	SE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.08	763.9	30.12	765.1	41.2	5.1	78	SSE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.99	761.8	30.05	763.2	37.8	3.2	76	SSE	12.5	5.6	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.10	764.6	30.14	765.6	32.0	0.0	63	ESE	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiana	30.06	763.5	30.21	767.4	31.6	— 0.2	98	NNE	2	1	.....	.....	10	.....	.....	0.071	1.8	Snowing.....	
Tromsö	30.08	764.1	30.13	765.2	22.8	— 5.1	71	SW	20	9	.....	.....	8	.....	.....	0.031	0.8	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.84	757.9	30.05	763.3	58.6	14.8	91	W	.....	.....	7	.....	7	.....	.....	0.551	14.0	.....	Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.21	767.2	51.1	10.6	93	SSW	3.1	1.4	.....	.....	10	.....	.....	0.039	1.0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.17	766.2	30.25	768.4	66.9	19.4	63	SW	11.2	5.0	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.78	756.4	30.15	765.7	56.1	13.4	87	NW	9.8	4.4	.....	.....	4	WSW	.....	0.217	5.5	.....	The Staff.
Ponta Delgada (Azores)	30.03	762.7	30.10	764.5	57.9	14.4	67	WSW	31.1	13.9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto	.....	.....	.....	H. de C. C. e Athayde.
Rio Duro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa				
Porto Praya, Cape Verd Ids.	3	NE	D. clouds.....	A. de Souza Roza, 2nd L't
SA da Bandeira	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado, Capt. J. A de Brito Capello,				
St. Paul de Loando	.....	.....	D. clouds.....	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,				
Macao, China	1	.....	Raining, 5 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The SA da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.49	774.4	30.51	774.9	4.6	—15.2	78	E	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.69	779.4	30.60	777.3	17.1	— 8.3	52	ESE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.61	752.2	30.19	766.8	—15.3	-26.3	80	SW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.08	764.0	30.34	770.6	28.0	— 2.2	73	SE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.28	743.8	30.37	771.3	— 2.7	—19.3	69	NNE	7	3	.....	5c	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.04	762.9	30.33	770.4	12.7	—10.7	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Kertch	30.36	771.2	30.38	771.7	20.3	— 6.5	95	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.60	751.8	30.28	769.1	25.9	— 3.4	91	SSE	4	2	.....	.....	10m	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.89	759.2	30.41	772.4	13.5	—10.3	57	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.16	766.1	30.39	771.8	10.0	—12.2	70	ENE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.77	756.1	30.36	771.1	19.9	— 6.7	81	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.78	705.6	30.35	770.8	— 3.6	—19.8	82	NW	2	1	.....	.....	7	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.32	770.2	30.39	772.0	21.2	— 6.0	93	E	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.87	758.8	30.13	765.3	16.0	— 8.9	70	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenberg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	29.94	760.4	30.08	764.0	29.8	— 1.2	94	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.32	770.1	30.34	770.5	27.1	— 2.7	94	SSE	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tashkend	28.71	729.2	30.42	772.7	19.0	— 7.2	67	E	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Teich, A. M.
Tiflis	29.10	739.2	30.62	777.7	31.6	— 0.2	74	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.61	752.2	30.06	763.4	32.0	0.0	89	W	16	7	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Wilna	29.71	754.7	30.16	765.9	30.9	— 0.6	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Yeniseisk	30.00	762.1	30.33	770.3	— 2.0	—19.2	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.07	763.8	30.17	766.3	55.8	13.2	58	SW	8.1	3.64	.....	.....	2	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.97	761.3	30.03	762.7	63.0	17.2	57	SW	3.9	1.74	.....	2	7	NE	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.3	.....	.....	43.7	6.5	82	S	7.4	3.33	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708.8	30.19	766.8	47.3	8.5	82	SE	1.5	0.67	.....	0	8	.....	.....	0.008	0.2	Almost cov'd	The Staff.
Murcia, Met. Obs'y	30.02	762.5	30.17	766.3	64.8	18.2	57	NW	0.4	0.17	.....	0	4	.....	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.08	738.5	29.98	761.4	54.1	12.3	78	SW	6.9	3.1	.....	.....	7	.....	.....	1.063	27.0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	29.98	761.5	30.05	763.2	71.5	21.9	88	ESE	1.1	0.5	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.6	29.96	760.9	81.3	27.4	72	E	.....	.....	.....	.....	1s	.....	.....	0	0	Fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.24	768.1	58.8	14.9	85	W	6.8	3.0	.....	5	4	NW	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	30.06	763.5	30.15	765.8	74.1	23.4	86	E	11.2	5.00	.....	5ckn	3kn	E	E	0.030	0.75	Cloudy.....	Enriquetadas, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.37	771.4	30.41	772.4	16.9	— 8.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.29	769.4	30.34	770.7	28.0	— 5.0	90	NE	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	
Hernosand	30.29	769.4	30.34	770.7	25.2	— 3.8	95	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	30.14	765.6	30.32	770.1	27.7	— 2.4	85	NE	.....	.....	2	.....	10	.....	.....	0.047	1.2	.....	
Wisby	30.08	763.9	30.13	765.4	34.2	1.2	92	E	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	30.19	766.9	30.28	769.1	28.2	— 2.1	89	NE	6.3	2.8	.....	.....	10	.....	.....	0.011	0.28	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 18° 43', W. 83° 11'	.....	.....	30.04‡	763.0‡	78.8	26.0	.....	ENE	.....	.....	3	.....	3	.....	.....	.....	.....	Gloomy	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.73	729.7	30.21	767.3	36.3	2.4	62	N	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.53	724.6	30.24	768.2	31.3	— 0.4	98	NW	.....	.....	2	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.3 mm.; Thermometer, —1.2 Cent. Relative Humidity, —10 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.24	768.0	42.8	6.0	69	NE	7	3.0	.....	.....	1	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.6	55.8	13.2	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.14	765.6	59.0	15.0	57	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.77	756.1	29.78	756.4	13	—10.6	.....	E	6	2.7	.....	.....	10n	.....	.....	Inap.	Inap.	Snowing	Hon. J. Ferguson.
Chatham, N. B	29.69	754.1	29.70	755.9	13.4	—10.3	100	NE	14	6.3	.....	.....	10n	.....	.....	0.08	2.0	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.63	752.6	29.68	753.9	15.3	— 9.3	100	NE	18	8.0	.....	.....	10n	.....	.....	0.10	2.5	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.57	751.1	29.78	756.4	18.5	— 7.5	83	NW	.....	.....	2	3cs	6s	W	.....	0.60	15.2	Fair	James Smith, M. A.
Dalhousie, N. B	29.64	752.8	29.82	757.4	13.5	—10.3	.....	E	.....	.....	1	0	.....	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	19.2	— 7.1	85	NE	30	13.4	.....	.....	10n	.....	.....	0.05	1.3	Light snow	J. McWilliams.
Fredericton, N. B	29.56	750.8	29.62	752.3	20.0	— 6.7	90	NE	14	6.3	.....	.....	10n	.....	.....	0.19	4.8	Snowing	Prof. Harrison.
Fort Garry, Manitoba	28.97	735.8	29.92	76 .0	—13.4	—25.2	100	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.80	731.5	29.06	761.0	26.2	— 3.2	99	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	29.14	740.1	29.55	750.6	31.6	— 0.6	94	NE	18	8.0	.....	.....	10n	.....	.....	0.597	15.17	Light rain	A. Allison.
Hamilton, Ontario	29.61	752.1	30.00	762.0	20.3	— 6.5	85	N	.....	.....	1	10cs	0	N	.....	0.18	4.6	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.52	749.8	29.87	758.7	20.1	— 6.6	88	N	4	1.8	.....	7cs	0	.....	.....	0.30	7.6	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.58	751.3	29.62	752.3	19.2	— 7.1	86	NE	5	2.2	.....	.....	10n	.....	.....	.....	.....	Snowing	C. H. Rigby.
Montreal, Quebec	29.48	748.8	29.69	754.1	27.6	— 2.4	93	W	12	5.4	.....	.....	10n	.....	.....	0.93	23.6	Light snow.	C. H. McLeod, C. E
Moose Factory, Ontario	29.96	761.0	30.00	762.0	—26.8	—36.7	90	SW	.....	.....	1	0	2s	.....	.....	0	0	Fair	J. R. Nelson.
Norwood, Ontario	29.15	740.4	29.89	759.2	16.7	— 8.5	85	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.24	742.7	30.01	762.2	7.3	—13.7	77	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.94	760.5	16.6	— 8.6	65	N	.....	.....	3	0	0	.....	.....	0	0	Clear.	J. F. Jeffers, M. A.
Port Dover, Ontario	29.25	742.9	29.90	761.7	19.1	— 7.2	100	W	4	1.8	.....	0	0	.....	.....	0.60	15.2	Clear	H. Morgan.
Port Stanley, Ontario	29.32	744.7	30.00	762.0	26.2	— 3.2	77	W	4	1.8	.....	.....	10ks	.....	.....	0.30	7.3	Cloudy	M. Payne.
Quebec, Quebec	29.30	744.2	29.64	752.8	22.0	— 5.6	100	E	.....	.....	8	.....	10n	.....	.....	0.30	7.6	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	29.46	748.3	29.96	761.0	3.5	—15.8	73	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	W. H. McIntyre.
St. John, N. B	29.45	748.0	29.62	752.3	25	— 3.9	100	NE	14	6.3	.....	.....	10n	.....	.....	0.43	10.9	Rain & hail.	G. Murdock, C. E.
Saugeen, Ontario	29.23	742.4	29.99	761.7	23.0	— 5.0	90	NE	4	1.8	.....	.....	10ks	.....	.....	0	0	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.63	727.2	29.98	761.5	23.4	— 4.8	91	NW	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.70	754.4	29.75	755.6	16.6	— 8.6	95	NE	2	0.9	.....	.....	10n	.....	.....	0.09	2.3	Snowing	T. C. Hill, C. E.
Toronto, Ontario	29.59	751.6	30.00	762.0	21.0	— 5.6	83	N	12	5.4	.....	0	5ks	.....	.....	0.070	1.78	Fair	Magnetic Observatory
Windsor, N. S	29.42	747.3	29.51	749.5	31.5	— 0.3	95	NE	12	5.4	.....	.....	10n	.....	.....	0.23	5.8	Light rain	Prof. John E. Oram, M.A
Woodstock, Ontario	28.86	733.0	29.98	761.5	24.0	— 4.4	78	NW	.....	.....	.....	2k	8ks	.....	N	0.10	2.5	Cloudy	Professor Wolverton.
Yarmouth, N. S	29.35	745.5	29.42	747.3	42.6	5.9	96	SE	7	3.1	.....	.....	Fog	.....	.....	0.62	15.7	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.64	752.8	29.91	759.7	15	— 9.4	100	N	.....	.....	.....	.....	10	.....	.....	0.40	10.2	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.76	755.9	17.6	— 8.0	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.48	748.8	29.71	754.6	34	1.1	70	NW	12	5.4	.....	2k	5s	NW	NW	0.77	19.6	Fair...	
Alpena, Michigan	29.31	744.5	29.99	761.7	20	— 6.7	85	W	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.....	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.80	731.5	29.96	761.0	43	6.1	75	NW	5	2.2	.....	5k	2s	NW	Calm	0.25	6.3	Cloudy.....	
Atlantic City, New Jersey	29.76	755.9	29.77	756.1	54	12.2	73	W	14	6.3	.....	8k	0	NW	.....	0.01	0.3	Cloudy.....	
Augusta, Georgia	29.83	757.7	30.03	762.7	53	11.7	67	NW	2	0.9	.....	0	8s	.....	W	0.20	5.1	Fair...	
Baltimore, Maryland	29.88	758.9	29.85	758.2	51	10.6	53	NW	12	5.4	.....	2k	0	W	.....	0.06	1.5	Clear	
Barnegat, New Jersey	29.72	754.9	29.75	755.6	52	11.1	79	W	10	4.5	.....	2ck	5ks	W	NW	0.02	0.5	Clearing	
Bismarck, Dakota	28.07	713.0	29.93	760.2	11	—11.7	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.58	725.9	29.94	760.5	40	4.4	65	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	27.27	692.6	30.23	767.8	32	0.0	89	SE	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Boston, Massachusetts	29.37	746.0	29.52	749.8	43	6.1	92	W	8	3.6	.....	0	8ks	.....	W	1.46	37.1	Clearing	
Brackettville, Texas	28.96	735.6	30.08	764.0	35	1.7	53	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.89	733.8	29.99	761.7	0	—17.8	100	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.04	763.0	30.09	764.3	48	8.9	93	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.21	741.9	29.95	760.7	22	— 5.6	86	N	8	3.6	.....	0	Haze	.....	Calm	0.61	15.5	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.38	746.2	29.68	753.9	30	— 1.1	89	NW	10	4.5	.....	.....	10n	.....	NW	0.11	2.8	Light snow	
Cairo, Illinois	29.72	754.9	30.14	765.5	33	0.6	79	SW	2	0.9	.....	0	0	.....	.....	0.15	3.8	Clear.	
Campo, California	27.62	701.5	30.19	766.8	43	6.1	75	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.92	760.0	29.92	760.0	61	16.1	94	SW	12	5.4	.....	8k	1s	SW	SW	0.14	3.6	Cloudy	
Cape Henry, Virginia	29.79	756.7	29.80	756.9	59	15.0	76	SW	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	58	14.4	94	SW	12	5.4	.....	.....	10s	.....	SW	0.37	9.4	Cloudy	
Cape May, New Jersey	29.77	756.1	29.80	756.9	50	10.0	79	W	24	10.7	.....	8k	0	W	.....	0	0	Cloudy	
Castroville, Texas	29.28	743.7	30.01	762.2	39	3.9	73	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	29.98	761.5	30.01	762.2	62	16.7	94	NE	5	2.2	.....	.....	10s	.....	S	0.79	20.1	Cloudy	
Charleston, South Carolina	29.92	760.0	29.97	761.2	60	15.6	88	SW	4	1.8	.....	0	8s	.....	SW	0.15	3.8	Cloudy	
Charlotte, North Carolina	29.05	737.9	29.86	758.4	49	9.4	78	W	3	1.3	.....	2ck	2s	W	SW	0	0	Fair...	
Chattanooga, Tennessee	29.22	742.2	30.05	763.3	36	2.2	71	N	10	4.5	.....	2k	2ks	N	Calm	0.19	4.8	Fair...	
Cheyenne, Wyoming	23.96	608.3	29.89	759.2	10	—12.2	70	W	14	6.3	.....	0	0	.....	Calm	Inap.	Inap.	Clear.	
Chicago, Illinois	29.31	744.5	30.03	762.7	31	— 0.6	69	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.41	747.0	30.08	764.0	37	2.8	71	NW	4	1.8	.....	.....	10s	.....	SE	0.66	16.8	Cloudy	
Cleveland, Ohio	29.27	743.4	30.02	762.5	29	— 1.7	83	N	4	1.8	.....	.....	10n	.....	Calm	1.36	34.5	Light snow.	
Coleman City, Texas	28.27	718.0	30.03	762.7	29	— 1.7	67	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.16	740.7	30.03	762.7	34	1.1	70	N	3	1.3	.....	.....	10ks	.....	N	0.38	9.7	Cloudy	
Conchó, Texas	28.10	713.7	29.86	758.4	32	0.0	59	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.47	748.5	29.96	761.0	33	0.6	51	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.36	745.7	30.03	762.7	24	— 4.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	43	6.1	59	SW	.....	.....	4	.....	10s	.....	SW	0.02	0.5	Cloudy	
Deadwood, Dakota	25.23	640.8	.....	.....	15	— 9.4	30	SW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear.	
Decatur, Texas	28.96	735.6	30.21	767.3	35	1.7	61	NW	16	7.2	.....	10cs	0	NW	.....	0	0	Cloudy	
Denison, Texas	29.28	743.7	30.12	765.0	31	— 0.6	79	NW	12	5.4	.....	0	5s	.....	NW	0	0	Fair	
Denver, Colorado	24.79	629.5	30.01	762.2	13	—10.6	52	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.07	738.4	29.99	761.7	27	— 2.8	76	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.32	744.7	30.02	762.5	27	— 2.8	76	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.61	698.7	29.94	760.5	22	— 5.6	45	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.29	744.0	30.04	763.0	18	— 7.8	68	NW	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.14	740.1	29.86	758.4	16	— 8.9	83	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Eagle Pass, Texas	29.39	746.5	30.16	766.1	38	3.3	63	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	29.39	746.5	29.46	748.3	31	— 0.6	100	NE	33	14.8	.....	.....	10n;fog	.....	NE	0.21	5.3	Light rain	
Edinburg, Texas	.....	.....	.....	.....	43	6.1	83	NW	.....	.....	4	0	0	.....	.....	.....	.....	Hazy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.26	743.2	30.01	762.2	28	— 2.2	88	NW	6	2.7	.....	.....	10s	.....	W	0.73	18.5	Cloudy	
Escanaba, Michigan	29.30	744.2	30.01	762.2	8	—13.3	55	Calm	0	0	.....	0	5s	.....	NW	0	0	Fair...	
Florence, Arizona	28.78	731.0	30.38	771.6	30	— 1.1	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	21	— 6.1	71	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.83	706.9	29.80	756.9	10	—12.2	89	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.62	676.1	.....	.....	38	3.3	79	W	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.30	642.6	30.26	768.6	34	1.1	90	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.54	750.3	30.13	765.3	16	— 8.9	66	E	1	0.4	.....	0	0	.....	.....	0.09	2.3	Clear.	
Fort Grant, Arizona	25.40	645.2	30.20	767.1	25	— 3.9	50	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.75	730.2	30.08	764.0	32	0.0	50	NE	12	5.4	.....	0	5s	.....	Calm	0	0	Fair...	
Fort Keogh, Montana	27.06	687.3	.....	.....	8	—13.3	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.81	706.4	29.83	757.7	31	— 0.6	58	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.86	733.0	30.02	762.5	32	0.0	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.02	711.7	.....	.....	5	—15.0	87	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	57	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.29	718.6	29.90	759.4	39	3.9	64	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	30.02	762.5	30.07	763.8	51	10.6	53	E	7	3.1	.....	0	2s	.....	E	0	0	Clear.	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.33	745.0	30.01	762.2	25	— 3.9	87	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.20	741.7	30.19	766.8	33	0.6	89	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.24	742.7	30.05	763.3	30	— 1.1	78	SW	4	1.8	.....	.....	10ks	.....	Calm	0.36	9.1	Cloudy	
Indianola, Texas	30.06	763.5	30.09	764.3	51	10.6	79	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	28.88	733.5	30.06	763.5	37	2.8	81	N	14	6.3	.....	8cs	0	N	.....	0	0	Fair...	
Jacksonville, Florida	29.99	761.7	30.01	762.2	62	16.7	88	W	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Keokuk, Iowa	29.24	745.2	29.99	761.7	26	— 3.3	81	W	2	0.9	.....	0	5s	.....	W	0	0	Fair...	
Key West, Florida	30.02	762.5	30.05	763.3	74	23.3	81	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.86	758.4	29.89	759.2	59	15.0	82	SW	13	5.8	.....	5cs	0	SW	.....	0.31	7.9	Fair...	
Knoxville, Tennessee	29.02	737.1	30.06	763.5	35	1.7	75	N	5	2.2	.....	.....	10ks	.....	Calm	0.55	14.0	Cloudy	
La Crosse, Wisconsin	29.19	741.4	29.98	761.5	18	— 7.8	84	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.29	667.8	30.44	773.2	33	0.6	51	E	3	1.3	.....	0	2s	.....	Calm	0	0	Fair...	
Laredo, Texas	29.65	753.1	30.00	762.0	50	10.0	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.10	739.1	29.98	761.5	30	— 1.1	68	S	2	0.9	.....	4cs	0	W	.....	0	0	Fair...	
Lewiston, Idaho	.....	.....	.....	.....	38	3.3	90	W	2	0.9	.....	10k	0	W	.....	0	0	Cloudy	
Little Rock, Arkansas	29.76	755.9	30.13	765.3	36	2.2	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.94	760.5	30.29	769.4	45.0	7.2	68	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.49	749.0	30 07	763.8	34	1.1	70	W	3	1.3	.....	.....	10s	.....	W	0.83	21.1	Cloudy	
Lynchburg, Virginia	29.17	740.9	29.85	758.2	50	10.0	52	W	3	1.3	.....	0	0	.....	.....	0.32	8.1	Clear	
Madison, Wisconsin	28.95	735.3	29.99	761.7	20	— 6.7	70	SW	6	2.7	.....	5cs	0	W	.....	0	0	Fair...	
Marquette, Michigan	29.20	741.7	29.95	760.7	17	— 8.3	67	W	7	3.1	.....	5cs	0	SW	.....	0	0	Fair...	
Mason, Texas	28.34	719.8	30.14	765.5	42	5.6	50	W	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.75	755.6	30.10	764.5	37	2.8	53	N	3	1.3	.....	0	5s	.....	N	Inap.	Inap.	Fair...	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.25	742.9	30.02	762.5	20	— 6.7	85	SW	8	3.6	.....	0	2s;sm	.....	Calm	0	0	Fair	
Mobile, Alabama	30.04	763.0	30.08	764.0	44	6.7	76	N	4	1.8	.....	0	0	.....	.....	1.03	26.2	Clear	
Montgomery, Alabama	29.82	757.4	30.06	763.5	43	6.1	87	NW	3	1.3	.....	2k	0	W	.....	1.17	29.7	Clear	
Morgantown, West Virginia	28.98	736.1	29.98	761.5	42	5.6	83	SW	4	1.8	.....	.....	Fog	.....	NW	0.16	4.1	Foggy	
Mt. Washington, N. H.	25.18	688.8	29.54	750.3	28	— 2.2	100	NW	54	24.1	.....	.....	Fog	.....	NW	0.16	4.1	Foggy	
Nashville, Tennessee	29.54	750.3	30.10	764.5	34	1.1	70	N	2	0.9	.....	5cs	2s	W	W	0.62	15.7	Clearing	
New Haven, Connecticut	29.53	750.0	29.64	752.8	49	9.4	78	W	6	2.7	.....	7ck	2s;fg	Calm	Calm	0.60	15.2	Cloudy	
New London, Connecticut	29.55	750.6	29.60	751.8	49	9.4	93	W	8	3.6	.....	5k	2ks	SW	SW	0.54	13.7	Clearing	
New Orleans, Louisiana	30.02	762.5	30.08	764.0	52	11.1	66	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.53	750.0	29.58	751.3	46	7.8	100	SW	13	5.8	.....	5k	2ks	SW	SW	0.54	13.7	Clearing	
New River, North Carolina	.....	.....	.....	.....	59	15.0	87	SW	.....	.....	1	.....	10n	.....	SW	.....	.....	Light rain	
New York, New York	29.50	749.3	29.67	753.6	46	7.8	92	W	19	8.5	.....	0	2s	.....	Calm	0.19	4.8	Fair	
Norfolk, Virginia	29.78	756.4	29.84	757.9	59	15.0	94	W	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	
North Platte, Nebraska	27.14	689.3	29.90	759.4	16	— 8.9	66	NW	14	6.3	.....	0	0	....	.....	0	0	Clear	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	43.0	6.1	83	SW	14	6.3	.....	.....	10n	.....	Calm	2.46	62.5	Light rain	
Omaha, Nebraska	28.82	732.0	29.96	761.0	29	— 1.7	78	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.55	750.6	29.88	758.9	27	— 2.8	76	N	9	4.0	.....	0	8s	.....	NW	0.57	14.5	Fair	
Pembina, Dakota	28.93	734.8	29.87	758.7	—14	—25.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.05	763.3	30.09	764.3	47	8.3	77	N	6	2.7	.....	2cs	0	W	.....	0.17	4.3	Fair	
Philadelphia, Pennsylvania	29.70	754.4	29.75	755.6	51	10.6	59	W	24	10.7	.....	2k	Haze	W	Calm	0.14	3.6	Fair	
Phœnix, Arizona	29.11	739.4	31.04	788.4	35	1.7	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.33	440.2	29.74	750.3	—11	—23.9	76	N	44	19.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Pilot Point, Texas	29.34	745.2	30.20	767.1	38	3.3	30	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.20	614.7	29.97	761.2	17	— 8.3	67	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.98	761.5	35	1.7	80	NW	6	2.7	.....	.....	10s	.....	NW	0.38	9.7	Cloudy	
Port Huron, Michigan	29.30	744.2	30.00	762.0	26	— 3.3	88	NW	7	3.1	.....	5cs	5ks	Calm	NW	Inap.	Inap.	Cloudy	
Portland, Maine	29.37	746.0	29.42	747.3	35	3.3	91	NW	12	5.4	.....	.....	10n	.....	Calm	0.51	13.0	Light rain	
Portland, Oregon	29.95	760.7	30.02	762.5	45	7.2	84	SW	14	6.3	.....	.....	10n	.....	.....	0.75	19.1	Heavy rain	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.95	633.7	30.31	769.9	5	—15.0	75	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	73	22.8	90	S	15	6.7	.....	0	1ks	.....	SE	0	0	Clear	
Red Bluff, California	30.03	762.7	30.41	772.4	34	1.1	79	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.25	742.9	29.89	759.2	29	— 1.7	89	NW	10	4.5	.....	.....	10s	.....	Calm	0.57	14.5	Clearing	
Roseburg, Oregon	29.73	755.1	30.32	770.1	43.6	6.4	87	SW	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Sacramento, California	30.31	769.9	30.39	771.9	36	2.2	80	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.46	748.3	30.08	764.0	17	— 8.3	67	SW	2	0.9	.....	0	Sm'e	.....	Calm	0.18	4.6	Clear	
St. Paul, Minnesota	28.98	736.1	29.84	757.9	25	— 3.9	88	SE	1	0.4	.....	.....	10n	.....	SE	0.04	1.0	Light snow	
Salt Lake City, Utah	25.85	656.6	30.18	766.6	16	— 8.9	54	SE	4	1.8	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
San Antonio, Texas	29.38	746.2	29.98	761.5	42	5.6	74	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.21	767.3	30.29	769.4	44	6.7	84	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.34	745.2	30.04	763.0	30	— 1.1	89	NW	7	3.1	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy	
Sandy Hook, New Jersey	29.69	754.1	29.72	754.9	47	8.3	77	W	20	8.9	.....	0	0	.....	.....	0.11	2.8	Clear	
San Francisco, California	30.94	770.6	30.40	772.1	44	6.7	92	SW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	3	—16.1	46	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.93	760.2	30.03	762.7	63	17.2	89	SW	3	1.3	.....	.....	10n	.....	SW	0.14	3.6	Light rain	
Shreveport, Louisiana	29.85	758.2	30.08	764.0	36	2.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.93	760.2	29.97	761.2	60	15.6	94	SW	7	3.1	.....	8k	2s	SW	Calm	0.02	0.5	Cloudy	
Socorro, New Mexico	25.58	649.7	29.65	753.1	23	— 5.0	47	NW	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.38	746.2	30.08	764.0	29	— 1.7	72	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Springfield, Massachusetts	29.45	748.0	29.58	751.3	41	5.0	91	Calm	0	0	.....	.....	Fog	.....	.....	1.04	26.4	Dense fog	
Stockton, Texas	27.15	689.6	30.15	765.8	36	2.2	39	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.47	748.5	29.53	750.0	46	4.4	100	NW	7	3.1	.....	.....	Fog	.....	.....	0.13	3.3	Foggy	
Toledo, Ohio	29.31	744.5	30.02	762.5	32	0.0	89	NW	3	1.3	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Tucson, Arizona	27.76	705.1	30.31	769.9	30	— 1.1	78	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.50	749.3	29.99	761.7	70	10.0	45	W	26	11.6	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.23	742.4	30.07	763.8	42	5.6	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.87	758.7	30.14	765.5	38	3.3	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.02	610.1	29.50	749.3	18	— 7.8	53	W	12	5.4	.....	5cs	0	NW	.....	0.03	0.8	Fair	
Visalia, California	29.99	761.7	30.38	771.6	35	1.7	90	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.73	755.1	29.85	758.2	50	10.0	58	NW	14	6.3	.....	1k	0	NW	.....	0.09	2.3	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	69	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.86	758.4	29.94	760.5	60	15.6	88	SW	5	2.2	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	28	— 2.2	77	SW	14	6.3	.....	0	1s	.....	Calm	0	0	Clear	
Wood's Holl, Massachusetts	29.51	749.5	29.55	750.6	48	8.9	92	W	34	15.2	.....	.....	Fog	.....	.....	0.76	19.3	Dense fog	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	30.18	766.6	30.33	770.4	44	6.7	30	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	73	22.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	77	25.0	82	SE	10	4.5	.....	2ck	2cs	SE	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	79	26.1	82	E	.....	.....	3	5k	6ks	E	.....	0	0	⅜ cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.44	747.8	29.99	761.7	80	26.7	80	Calm	.....	.....	0	.....	10ks	.....	.....	0.03	0.8	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.01	762.2	30.06	763.5	—26.0	—32.2	.....	NW	11	4.9	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood. (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Caster, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 600 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 .6 m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3.488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.14‡	765.5‡	.....	.....	50	10.0	86	NW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H.	29.57‡	751.1‡	.....	.....	33	0.6	79	NW	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.30‡	769.6‡	.....	.....	45.5	7.5	65	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams, N. 24° 09′, W. 108° 42′... *	30.08‡	764.0‡	.....	.....	60	15.6	65	NW	.....	.....	5–6	.....	0	.....	.....	.....	.....	Rough	NW	Clear	
Colorado, New York, N. Y.	29.68‡	753.9‡	.....	.....	49	9.4	.....	W	15	6.7	.....	.....	2	.....	Calm	0.18	4.6	.....	.....	Clear	
Constitution, Aspinwall, Panama	29.94‡	760.5‡	.....	.....	77	25.0	82	N	.....	.....	2	.....	5	.....	N	.....	.....	Mod'ate	NE	Fair.....	
Enterprise, Villafranca, France	30.18‡	766.6‡	.....	.....	57	13.9	68	SSW	.....	.....	2	.....	7	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	29.86‡	758.4‡	.....	.....	60	15.6	71	SW	9.6	4.8	..	.....	8	.....	SW	0	0	.....	.....	Fair.....	
Independence, Mare I'd, Navy Yard, Cal.	30.39‡	771.9‡	.....	.....	40	4.4	??	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Shephard's Harbor, Chiriqui	29.99‡	761.7‡	.....	.....	76	24.4	86	SW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	.....	Fair.....	
Lackawana, Navy Yard, Mare I'd., Cal.	30.41‡	772.4‡	.....	.....	45	7.2	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, S. 35° 30′, W. 52° 50′...	29.87‡	758.7‡	.....	.....	73	22.8	81	NE	.....	.....	2	.....	8	.....	NE	0	0	Smooth	.....	Cloudy.....	
Michigan, Erie, Pa.	29.96‡	761.0‡	.....	.....	26	— 3.3	63	NW	.....	.....	2	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China..	30.04‡	763.0‡	.....	.....	42	5.6	91	W	.....	.....	1	.....	10	.....	NNE	.....	.....	.....	.....	Overcast....	
New Hampshire, Port Royal, S. C.	29.98‡	761.5‡	.....	.....	61	16.1	94	WSW	4	1.8	.....	.....	10	.....	WSW	0.11	2.8	.....	.....	Raining	
Nipsic, St. Thomas, W. I.	30.14‡	765.5‡	.....	.....	79	26.1	96	ENE	.....	.....	3	.....	2	.....	ENE	.....	.....	Smooth	.....	D. clouds....	
Onward, Callao, Peru ..... †.	29.91‡	759.7‡	.....	.....	70	21.1	90	E	.....	.....	3	.....	8	.....	.....	.....	.....	Long	W	Fair.....	
Palos, Tientsin, China. .	30.08‡	764.0‡	.....	.....	36	2.2	80	NW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Passaic, Washington, D. C.	29.84‡	757.9‡	.....	.....	51	10.6	86	NW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Callao, Peru	29.80‡	756.9‡	.....	.....	70	21.1	90	ESE	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	D. clouds....	
Powhatan, Off Norfolk, Va.	29.88‡	758.9‡	.....	.....	60	15.6	65	SW	.....	.....	2	.....	5	.....	NE	Very light	Very light	.....	.....	Fair.....	
Quinnebaug, Leghorn, Italy	30.15‡	765.8‡	.....	.....	60	15.6	65	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ranger. Mare I'd, Navy Yard, Cal.	30.41‡	772.4‡	.....	.....	47	8.3	85	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.	
Richmond, Hong-Kong, China.	29.94‡	760.5‡	.....	.....	64	17.8	94	ENE	.....	.....	3	.....	10	.....	.....	0.14	3.6	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †	30.30‡	769.6‡	.....	.....	46	7.8	100	NNW	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md.	29.85‡	758.2‡	.....	.....	51	10.6	59	NW	.....	.....	2	.....	2	.....	W	0.02	0.5	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	29.74‡	755.4‡	.....	.....	72	22.2	95	NE	.....	.....	4	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy.....	
St. Louis, League Island, Pa.	29.84‡	757.9‡	.....	.....	46	7.8	77	WNW	25	11.2	.....	.....	2	.....	WNW	0.02	0.5	.....	.....	Clear.	
Swatara, N. 36° 02′, W. 5° 30′.....	30.21‡	767.3‡	.....	.....	64	17.8	78	E	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.	
Tennessee, Norfolk, Va.	29.88‡	758.9‡	.....	.....	60	15.6	71	WNW	3	1.3	.....	.....	1	.....	.....	0	0	.....	.....	Blue sky....	
Trenton, Toulon, France.....	30.19‡	766.8‡	.....	.....	56	13.3	81	SSE	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 13° 44′, W. 90° 19′.....	29.94‡	760.5‡	.....	.....	78	25.6	78	N	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	29.57‡	751.1‡	.....	.....	44	6.7	84	W	2	0.9	.....	.....	10	.....	.....	1.41	35.8	.....	.....	Hazy.....	
Wachusett, Montevideo, Uruguay.†	30.33‡	770.4‡	.....	.....	72	22.2	80	NNE	.....	.....	2	.....	10	.....	N	.....	.....	Smooth	N	Light rain...	
Wyoming, Naples, Italy	30.07‡	763.8‡	.....	.....	52	11.1	79	N	.....	.....	1–2	.....	10	.....	N	.....	.....	Smooth	N	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 49° 25′, W. 40° 06′ †	29.38‡	746.2‡	33	0.6		WNW			4		8		WNW			Mod'ate	WNW	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 55° 50′, W. 12° 46′	29.21‡	741.9‡				WSW			7		2		SW			Heavy	WNW	Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air, Locust Point, Md.	29.88‡	758.9‡	54	18.3		W			5		0							Clear	A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 50° 41′, W. 13° 51′	29.70‡	754.4‡	53	11.7	81	W			6		2		W	Heavy	Heavy	Heavy	W	Clear	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger. N. 24° 30′, W. 110° 20′ †	30.26‡	768.6‡				NNW			6		0					Mod'ate	NNW	Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 40° 41′, W. 6° 49′	29.74‡	755.4‡	50.0	10.0	82	WSW			5		5?		NW	½ h'r	½ h'r	Heavy	WSW	Cloudy?	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 26° 10′, E. 121° 06′ †	30.04‡	763.0‡	61	16.1	77	NW			4		8		NW			Smooth		Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley,																			J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, Port Hartford, Cal. †	30.37‡	771.4‡	54	12.2		E			2		0			0	0	Mod'ate	W	Clear.	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.				Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, San José, Guatemala.†	29 93‡	760 2‡	77	25.0	100	E			3		2		E	0	0	Light	SW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann, N. 48° 06′, W. 124° 48′...†	29.86‡	758 4‡	36	2.2		W SW			7		10		W			Heavy	W	Threatening	E. Polemann.
S. S. City of Panama, M. Connolly, Acapulco, Mexico.... †	29.89‡	759.2‡	74	23.3		Calm			0		0			0	0	Smooth		Clear.	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury N. 34° 15′, E. 103° 12′....†	30 06‡	763.5‡	55	12.8	66	NNE			5		8k		NE	0	0	Mod'ate	NE	Cloudy.....	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths																			D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest.																			
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes.																			J. Farmer & W. Apetan.
NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.																			
WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings.																			J. W. Jennings.
S. S. Britanic, H. Perry,...																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.
NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 42° 30′, E. 9° 56′.....*	29.40‡	746.7‡	59	15.0		W			6		10		W			Rough	NNE	Clearing.....	B. F. Woodbury.
Brigantine George, W. H. Champlin, N 37° 10′ W 72° 40′.....	30.00‡	762 0‡	61	16.1		SW			4		10		W	Blank	Blank	Mod'ate	SW	Clearing.....	
Iron Cross, W. Randall, N. 34° 35′, W. 20° 21′.....	30 24‡	768.4‡	60.5	15.8	74	WSW			3		7		WSW	Slight	Slight	Long	WNW	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.
NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

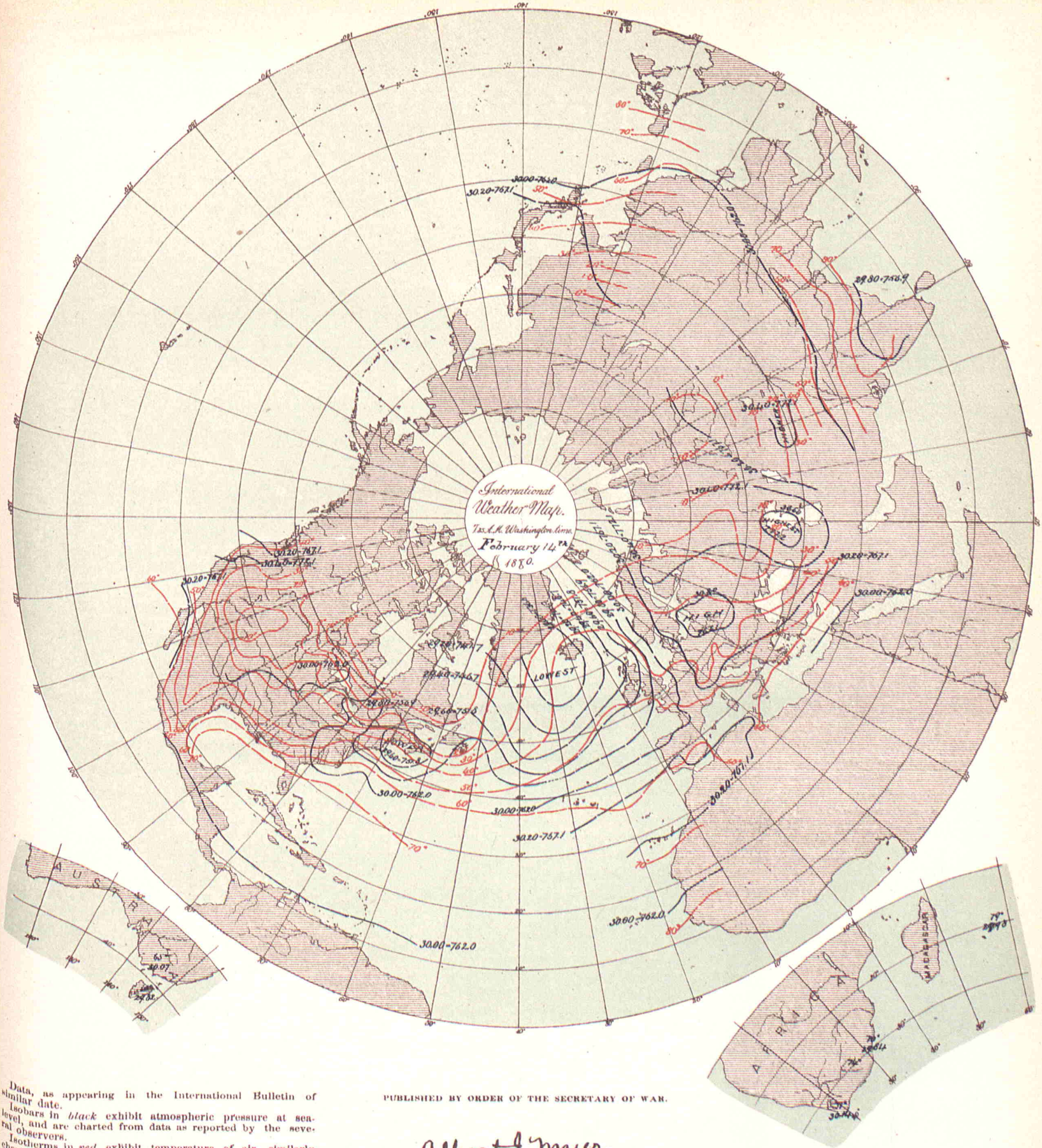
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 15, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.21	767.3	.....	.....	.....	NE	.....	.....	2	.....	3	.....	.....	0	0	Pretty Fair.	
Nemours	.....	.....	30.10	764.6	62.2	16.8	75	NW	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.09	764.3	60.1	13.4	79	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Tourilliere.
La Calle	.....	.....	30.13	765.3	56.3	13.5	64	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.23	767.7	47.3	8.5	87	ENE	.....	.....	1	.....	7	.....	.....	0.224	0.6	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.23	767.7	57.9	14 4	10	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.18	766.6	58.6	14.8	70	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 800? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.65	753.0	30.23	767.8	32.4	0.2	92	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.41	747.0	30.21	767.4	34.9	1.6	82	WSW	7.8	3.5	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.22	742.3	30.14	765.5	38.5	3.6	70	.....	.....	.....	.....	8s	.....	.....	0.039	1.00	.....	Julius Mikolik.
Gratz	28.91	734.2	30.21	767.4	35.8	2.1	81	SW	.....	.....	2	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.67	728.1	30.16	766.0	35.2	1.8	96	N	.....	.....	2	10	.....	.....	0.069	1.75	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.72	729.5	30.12	765.0	35.2	1.8	100	ENE	.....	.....	2	10	.....	.....	0	0	.....	The Staff.
Lemberg	29.02	737.2	30.05	763 3	35.2	1.8	82	NW	.....	.....	2	10	.....	.....	0.063	1.6	.....	Dr. T. Stanecki.
Pola	30.04	762.9	30.15	765.9	46.4	8.0	69	W	.....	.....	1	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.72	754.8	30.21	767.2	36.0	2.2	96	W	.....	.....	2	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.91	759.7	30.21	767.2	32.0	0.0	100	Calm	.....	.....	0	Fog	.....	.....	0	0	Foggy	Karl Stancel.
Trieste	30.05	763.3	30.15	765.9	49.8	9.9	50	NE	.....	.....	1	0	.....	.....	0	0	Clear.	P. Busin.
Vienna	29.46	748.3	30.21	767.2	36.9	2.7	80	E	.....	.....	1	2	.....	.....	0	0	.....	I.R.Central Met. Ob'ry.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau
Brussels	29.69	754.0	29.89	759.2	47.5	8.6	76	S	.....	.....	2	7	.....	SSW	.....	0	0	.....	Royal Observatory.
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.083	2.1	.....	M. E. de Cae.
Maeseyck	9.83	757.7	29.96	760.9	42.6	5.9	73	SE	.....	.....	2	7	.....	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:8 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.61	752.1	29.71	754.6	40.4	4.7	.....	SSE	15	6.7	.....	.....	10	.....	.....	0.285	7.24	Misty	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh, (Observatory)	29.19	741.4	29.43	747.5	43.3	6.3	.....	SE	26	11.6	.....	.....	.....	.....	.....	.....	.....	Squally	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.58	751.3	41.3	5.2	.....	E	23	10.3	.....	.....	7	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	29.08	738.6	29.59	751.6	39.9	4.4	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	.....	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	76.5	24.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.66	753.4	29.76	755.9	44.0	6.7	.....	S	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd.
Cardington	.....	.....	29.71	754.6	44.0	6.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.64	752.8	29.77	756.1	42.1	5.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	Lance Corp'l Hocker, R. E.
Dee Shedee	29.46	748.3	29.50	749.3	43	6.1	.....	SSE	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.73	755.1	29.76	755.9	43	6.1	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	29.16	740.7	29.38	746.2	46.3	7.9	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, Natal	27.62	701.5	29.84	757.9	68.2	20.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.66	753.4	29.89	759.2	89	31.7	.....	E	.....	.....	1	.....	8k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	28.92	734.6	45	7.2	.....	ESE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.02	762.5	30.08	764.0	62.4	16.9	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	29.38	746.2	29.58	751.3	45.5	7.5	.....	ESE	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.81	757.2	29.82	757.4	40	4.4	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	Rain & fog	G. T. Watson.
Greenwich (Royal Obs'y)	29.56	750.8	29.73	755.1	46.2	7.9	.....	SSE	.....	.....	.....	.....	9	.....	.....	.....	.....	Almost overcast	The Staff, for G.B.Airy.
Guernsey	29.33	745.0	29.56	750.8	46	7.8	.....	SE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	Dr.S.E.Hoskins, F.R.S.
Helston	29.48	748.8	29.60	751.8	48	8.9	.....	SE	.....	.....	8	.....	10	.....	.....	0.84	21.3	Raining	M. P. Moyle.
Holyhead	29.41	747.0	29.48	748.8	45	7.2	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.32	744.7	29.61	752.1	44.2	6.8	.....	SSE	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	29.70	754.4	29.73	755.1	45.0	7.2	.....	SE	15	6.7	.....	.....	9	.....	.....	.....	.....	Misty	The Met'g'l Office.
Leicester (Museum)	29.44	747.8	29.70	754.4	43.9	6.6	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.05	763.3	58	14.4	.....	NE	.....	.....	.....	.....	8km	.....	.....	.....	.....	Raining	A. King.
Nairn	29.52	749.8	29.61	752.1	46	7.2	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.10	764.5	75.0	23.9	.....	S	.....	.....	.....	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.50	749.3	29.69	754.1	44.3	6.8	.....	SSE	.....	.....	3	.....	10k	.....	SSE	0.033	0.84	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.11	739.4	29.64	752.8	42.0	5.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whity.
Oxford (Radcliffe Obs'y)	29.45	748.0	29.71	754.6	45	7.2	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	The Staff, for E. J. Stone, Esq.
Plymouth	29.39	746.5	29.46	748.3	46.8	8.2	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Squally	John Merrifield.
*Roche's Point	28.99	736.3	29.07	738.4	48	8.9	.....	SE	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	29.18	741.1	29.34	745.2	45	7.2	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.68	753.9	43.3	6.3	.....	SE	23	10.3	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.01	762.2	30.08	764.0	44.2	6.8	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	Serg't W. H. Lyne.
Sheffield	29.43	747.5	29.72	754.9	43.0	6.1	.....	SW	.....	.....	1	.....	10	.....	.....	0.17	4.3	Overcast	W. F. Cooper.
Silloth Rectory	29.93	760.2	29.96	761.0	46.8	8.2	70	SW	.....	.....	3	.....	7	.....	.....	0.057	1.45	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.63	752.6	41.3	5.2	.....	SE	18	8.0	.....	.....	10	.....	.....	.....	.....	Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.48	748.8	29.69	754.1	45.7	7.6	.....	SE	.....	.....	3-4	.....	9	.....	.....	.....	.....	Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.25	742.9	29.31	744.5	48	8.9	.....	SE	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	28.85	732.8	28.87	733.3	47.1	8.4	.....	SE	51	22.8	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	81.6	27.6	41	S	13.9	6.2	.....	0	1cs	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.56	649.2	.....	.....	83	28.3	.....	NW	.....	.....	.....	2k	5k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.76	679.7	.....	.....	69	20.6	.....	SE	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.07	763.8	67.0	19.4	60	Calm	.....	.....	0	.....	5k	.....	.....	0	0	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.66	753.4	44.8	7.1	.....	SE	.....	.....	2	.....	2k	.....	.....	0.09	2.3	Fine	C. Meldrum.
Mauritius (Observatory)	29.80	756.9	29.99	761.7	80.0	26.7	61	E	17.5	7.8	.....	0	4	.....	.....	0.09	2.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.14	765.5	30.23	767.8	61.0	16.1	65	SSE	12	5.4	.....	.....	2	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.47	748.5	45	7.2	.....	SSE	.....	.....	4	5	3	SE	.....	0.2	5.	.....	
North Unst, Shetland Is	.....	.....	29.77	756.1	.....	.....	.....	SSE	.....	.....	6	10	10	SSE	.....	0	0	.....	

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 36° 15′, W. 27° 30′	.....	.....	30.031‡	762.7‡	68.8	20.4	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Threatening	Capt. Thos. Young.
City of Cashmere, S. 15° 10′, W. 36° 38′	.....	.....	29.97‡	761 2‡	81.6	27.6	.....	ESE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Bute Fylde, N. 36° 55′, W. 69° 00′	.....	.....	30.00	762.0	.....	.....	.....	SSW	.....	.....	6	.....	6	.....	.....	5	W	D. clouds	Capt. L. C. Dart.
S. S. German, S. 34° 41′, W. 18° 53′	.....	.....	29.91‡	759 7‡	65	18.3	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 29° 29,′ E. 50° 29′	.....	.....	30.10	764.5‡	81.5	27.5	.....	ENE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. O. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.23	666.2	29.95	760.7	61.7	16.5	79	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.10	766.7	30.23	767.9	32.9	0.5	89	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Faröe	30.05	763.3	30.07	763.8	32.5	0.3	89	SE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	28.95	735.3	28.99	736.4	20.8	— 6.2	76	NNE	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.51	749.6	29.56	750.7	35.6	2.0	85	SE	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.67	753.7	29.71	754.6	43.0	6.1	83	E	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	30.03	762.8	30.14	765.6	32.0	0.0	90	E	.....	.....	6	.....	9	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.24	742.7	29.79	756.7	46.4	8	80	SE	.....	.....	2	.....	10	SW	SW	0.173	4.4	Covered	Collignon, Director.
Amiens, Normal School	29.72	754.8	29.83	757.7	49.3	9.6	89	E	.....	.....	1	.....	5	.....	Calm	0	0	Cloudy	Vaillant, Director.
Arras, Engin'r School	29.58	751.4	29.85	758.1	44.2	6.8	85	S	.....	.....	3	c	k	.....	S	0.012	0.3	.....	Klein, Commandant
Avignon, Normal School	30.00	762.1	30.08	764.1	53.6	12	65	SE	.....	.....	3	.....	8	.....	SSE	0.008	0.2	Very cloudy	Giraud, Director.
Bar-sur-Seine	29.35	745.4	29.91	759.6	50.4	10.2	51	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.55	750.6	29.82	757.4	48.0	8.9	71	SE	.....	.....	1	.....	0	.....	.....	0.010	0.25	Clear	Frère Eugene Marie.
Besançon, Normal School	29.10	739.2	30.01	762.2	46.0	7.8	60	SE	.....	.....	1	.....	2	.....	W	0	0	Slightly cld'y	A. Carré, Director.
Bordeaux	29.56	750.8	29.76	755.8	55.1	13.4	80	SE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.14	740.2	30.06	763.4	50.4	10.2	60	S	.....	.....	6	.....	cn	S	S	0	0	.....	Marlot, Director.
Bourges, Normal School	29.30	744.1	29.86	758.4	50.7	10.4	65	SE	.....	.....	1	.....	1s	.....	SE	0	0	Clear	M. Genee, Director.
Brest, Naval Observatory	29.24	742.6	29.48	748.8	48.2	9.0	92	S	.....	.....	4	.....	10	.....	S	0.059	1.50	Raining	Ch. de Rermaree, Dir
Caen, Normal School	29.64	752.8	29.71	754.6	47.1	8.4	94	S	.....	.....	1	.....	5	.....	S	0.098	2.5	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.47	748.6	29.89	759.1	55.8	13.2	55	E	.....	.....	2	.....	1	.....	W	0	0	V. slightly cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.60	751.7	29.92	759.9	51.3	10.7	77	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Jadot, Director.
Chartres, Normal School	29.18	741.1	29.74	755.5	50.0	10	95	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.48	723.5	29.83	757.6	56.8	13.8	39	S	.....	.....	3	.....	5	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	29.08	738.7	29.97	761.1	44.6	7.0	69	ESE	.....	.....	1	5ck	.....	ESE	ESE	0	0	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.02	737.1	30.16	766.1	52.0	11.1	56	SE	.....	.....	3	.....	8	.....	S	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.25	743.0	30.04	762.9	44.6	7	71	NNW	.....	.....	1	c	.....	NE	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.46	748.3	29.98	763.8	46.8	8.2	84	SE	.....	.....	3	.....	5	.....	S	0.055	1.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.47	748.6	29.78	756.5	48.2	9	84	SSW	.....	.....	3	.....	8	.....	SW	0.106	2.7	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.08	738.7	30.02	762.5	50.5	10.3	64	S	.....	.....	4	.....	0	.....	.....	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.46	748.0	29.56	750.6	51.8	11.0	94	SE	.....	.....	4	.....	10	.....	.....	0.039	1.5	Misty	Lt. T. Carré, Director.
Lyons Obs'y (Park Station	29 37	745.9	29.98	761.6	53.6	12.0	54	S	.....	.....	3	5ck	.....	.....	SW	0	0	Fair	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galxin, Director.
Marseilles, Observatory	29.82	757.3	30.09	764.2	54.5	12.5	80	SE	.....	.....	3	.....	9	.....	SE	Inap.	Inap.	.....	E. Stephan, Director.
Mirecourt, Normal School	28.92	734.5	29.99	761.7	43.5	6.4	79	S	.....	.....	1	.....	2	.....	.....	0	0	Slightly cov.	Barbier, Director.
Mont-Louis	24 70	627.3	30.01	762.3	38.8	3.8	58	WSW	.....	.....	6	.....	4	.....	W	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.11	764.7	30.14	765.5	52.2	11.2	75	W	.....	.....	2	.....	5	W	W	0	0	Cloudy	Capt. Boissière, Director.
Nismes, Normal School	29.87	758.6	30.08	763.9	50.4	10.2	77	S	.....	.....	1	.....	1	.....	S	0	0	Clear	M. Boyer, Director.
Perpignan	29.80	756.8	29.90	759.5	53.2	11.8	60	SE	5.6	2.5	.....	.....	2	NW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.27	566.7	.....	.....	27.5	— 2.5	.....	.....	.....	.....	.....	.....	5	.....	NW	0	0	Cloudy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.98	736.0	30.07	763.6	47.8	8.8	63	SW	.....	.....	4	.....	10	S	S	0	0	Covered	M. Tallieu
Puy de Dome (Summ') Obs	24.99	634.7	.....	.....	38.1	3.4	78	S	.....	.....	4	.....	2	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.60	751.7	29.63	752.5	54.0	12.2	65	S	.....	.....	3	.....	10	S	S	0.16	4.	Covered	Lt E. Decante, Director
Rouen, Normal School	29.67	753.6	29.76	755.8	52.7	11.5	70	SE	.....	.....	1	.....	2	.....	S	0.126	3.2	Slightly cld'y	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.59	751.5	29.62	752.3	51.3	10.7	73	SSE	.....	.....	5	.....	8	SSE	SSE	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.68	753.8	29.84	758.0	53.4	11.9	54	SSE	.....	.....	2	.....	0	.....	.....	0 028	0.7	Clear	E. Renou, Director.
Tarbes, Normal School	28.80	731.6	29.88	759.0	62.6	17	82	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.19	741.5	29.91	759.8	54.0	12.2	68	SSE	.....	.....	3	.....	2	.....	.....	0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	29.57	751.0	29.76	756.0	54.3	12.4	61	SSW	.....	.....	2	.....	10	Calm	SSW	0.021	0.7	Covered	M. de Tastes.
Versailles, Observatory	29.32	744.7	29.81	757.2	52.2	11.2	54	S	.....	.....	3	.....	0	.....	.....	0.020	0.54	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.24	742.8	29.96	761.0	51.8	11	94	SE	.....	.....	4	.....	2	.....	SW	0	0	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.43	11	.....	L'Abbé Marchésl
Paris, Montsouris Obs'y	29.56	750.7	.....	.....	52.5	11.4	70	S	.....	.....	2	.....	2	.....	.....	0.020	0.50	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.25	768.3	30.27	768.9	39.2	4.0	93	E	5.1	2.3	.....	.....	10n	.....	.....	0.024	0.6	Raining	Marc Dechevrens J S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,656.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,368 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,082 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES,

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.23	742.5	30.10	764.5	35.1	1.7	75	SE			6		7ks	SE		0	0	Light fog	Prof. Dr. Hoh.
Berlin	30.00	762.0	30.18	766.6	37.8	3.2	80	NE			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.70	754.4	30.24	768.0	36.5	2.5	58	NW			3		0			0	0		Royal University Obs'y
Carlsruhe	29.59	751.6	30.03	762.7	41.4	5.2	74	E			1		10	SW		0	0		Albert Senz.
Cassel	29.41	747.0	30.02	762.5	36.5	2.5	65	E			1		7	SE		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.76	755.9	30.14	765.5	38.8	3.8	59	E			2		7			0	0		Physical Society.
Friedrichshafen	28.58	726.0	30.09	764.2	31.6	— 0.2	92	W			1		10			0	0	Light fog	Chief Telegrapher Wilhelm.
Hamburg	30.02	762.5	30.09	764.3	36.1	2.3	79	SE			4		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.09	764.3	30.11	764 7	36.1	2.3	74	ESE			6		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.09	764.3	30.18	766.5	28.6	— 1.9	80	NE			4		8			0.394	10.0	Snowing	Prof. E. Luther.
Köslin			30.23	767.9	33.4	0.8		Calm			0		4			0	0		H. Müller.
Leipsic Observatory	29.72	754.9	30.16	766.0	38.3	3.5	72	SE			1		9			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.95	760.7	30.18	766.5	36.1	2.3	76	SE			4		10ks	SE		0	0		Dr. Assmann.
Memel	30.13	765.3	30.18	766.5	26.8	— 2.9	89	NE			2		10ks						Reinbrecht & Issermann
Munich (München)	28.21	716.6	30.08	764.0	35.2	1.8	69	NE			3		5			0	0		Dr. C. Lang.
Neufahrwasser	30.20	767.0	30.21	767.4	33.3	0.7	87	NNE			3		10			0.146	3.7		A. Lothes.
Neustadt (Palatinate)	29.49	749.1	30.02	762.4	37.8	3.2	78	Calm			0		4			0	0		Reallehrer Dicknether.
Posen	29.94	760.4	30.24	768.1	34.3	1.3	87	NW			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.48	748 9	30.05	763.3	40.8	4.9	81	E			1		10	WNW		0	0		Imp. University Observatory.
Stuttgart	29.08	738.5	30.04	763.1	41 0	5.0	58	E			2		10			0	0		Prof. Dr. Schoder.
Thorn	30.05	763.2	30.24	768.0	33.4	0.8	86	W			3		10			0.063	1.6	Rain & snow	Dr. Cunerth.
Weissenburg (Bavaria)	28.57	725.6	30.15	765.7	31.6	— 0.2	89	SE	1.8	0.8			10		SE	0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	30.20	767.1	30.23	767.7	31.6	— 0.2	96	E			3		10			0	0	Foggy	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.8 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.89	754.1	30.09	764.2	58.1	11.7		NE			2.5		10					Covered	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.89	759.1	29.94	760.4	72.9	22.7	46	N	7	3.1			0			0	0	Blue sky	
Deesa	29.33	745.0	29.81	757.2	73.7	23.2	23	WSW	9.4	4.2			1	WNW		0	0	D. clouds	
Bombay	29.85	758.2	29.90	759.4	75.6	24.2	66	NNW	9	4.0			2	NW		0	0	D. clouds	
Poona (Yarrowda)	27.97	710.5	29.84	757.9	74.8	23.8	44	W	21	9.4			4	WSW		0	0	D. clouds	
Belgaum	27.31	693.7	29.85	758.2	76.9	24.4	53	WSW	12	5.4			4	S	SW	0	0	D. clouds	
Lahore	29.07	738.3	29.85	758.3	52.7	11.5	86	Calm	2.2	1.0			10			0.06	1.5	Overcast	
Roorkee	28.82	7 1.9	29.73	755.2	66.8	19.3	50	SW	4.0	1.8			8			0	0		
Agra	29.15	740.3	29.72	754.9	72.2	22.3	33	E	3.5	1.6			6		E	0	0		
Nagpur	28.67	728.1	29.70	754.3	66.7	30.4	29	WSW	7.1	3.2			2	W		0	0	D. clouds	
Jubbulpore	28.32	719.4	29.70	754.3	73.3	22.9	68	Calm	4.4	2.0			10		NE	0	0	Overcast	
Lucknow	29.42	747.2	29.81	757.1	63.5	17.5	80	ESE	1.1	0.5			10			0.23	5.8	Thunder-storm	
Allahabad	29.47	748.6	29.80	756.9	61.8	16.6	74	Calm	2.2	1.0			5		SW	0.10	2.5	D. clouds	
Patna	29.68	753.9	29.87	758.6	66.4	19.1	64	E	0.5	0.2			10	E	E	0.05	1.3	Thunder-storm	
Hazaribagh	27.75	704.9	29.82	757.3	64.3	17.9	85	SSE	5.0	2.2			10			0.23	5.8	Thunder-storm	
Cuttack	29.74	755.5	29.83	757.6	79.4	26.3	72	S	3.0	1.3			1			0	0	Blue sky	
Calcutta (Alipore)	29.84	758.0	29.86	758 5	75.0	23.9	77	WNW	2.0	0.9			10		NW			Drizzling	
Goalpara	29.46	748.4	29.86	758.5	68.3	20.2	41	W	1.9	0.8			0			0	0	Blue sky	
Chittagong	29.80	756.9	29.89	759.2	74.0	23.3	60	NW	3.3	1.5			1			0	0		
Sibsagar	29.55	750.4	29.89	759.3	64.4	18.0	77	ENE	1.4	0.6			2			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.74	755.3	30.16	766.0	48.6	9.2	40	E	1.8	0.8			0			0	0		Prof. Giovanni Clodig.
Milan	29.65	753.1	30.19	766.9	36.5	2.5	96	E			1		10			0	0		Prof. Schiaparelli.
Padua	30.07	763.7	30.18	766.6	44.4	6.9	57	NW	1.3	0.6			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.24	742.8	30.10	766.7	42.1	5.6	78	S	1.3	0.6			6	N		0	0		Prof. P. F. Denza.
Genoa	29.96	760.9	30.15	765.9	52.5	11.4	55	SW	4.3	1.9			6	W		0	0		Prof. G. M. Garibaldi.
Mondovi	28.20	716.2	30.15	765.9	41.9	5.5	56	NW			2		6	S		0	0		Prof. D. C. Bruno.
Pesaro	30.12	765.0	30.17	766.3	41.5	5.3	86	NE.	15.4	6.9			0			0	0		Prof. Luigi Guidi.
Florence	29.87	758.8	30.14	765.5	48.7	9.3	53	SW			2		0			0	0		Cav. F. Meucci.
Leghorn	30.08	763.9	30.16	766.1	51.1	10.6	42	N	4.3	1.9			1			0	0		Prof. P. Monte.
Rome	29.94	760.4	30.12	765.0	54.7	12.6	55	W	0	0			0			0	0		Prof. P. S. Ferrari.
Lecce	29.84	757.9	30.10	764.5	52.9	11.6	79	NNW	17.4	7.8			8	N		0.024	0.6		Prof. C. De Giorgi.
Cosenza	29.22	742.1	30.11	764.9	53.6	12.0	76	NE	0.7	0.3			10			0.039	1.0		Prof. D. Conti.
Cagliari	29.90	759.5	30.10	764.6	55.6	13.1	65	S			2		1			0	0		Prof. A. Pacinotti.
Palermo	29.86	758.4	30.11	764.9	57.2	14.0	73	ENE	1.8	0.8			9			0.031	0.8		Prof. G. Ciaccatore.
Syracuse	30.02	762.6	30.07	763.7	54.9	12.7	85	E	6.3	2.8			8	E		0.118	3.0		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.58	751.2	30.11	764.8	51.8	11.0	77	N.	0	0			10			0.039	1.0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.91	759.7	29.92	759.9	49.7	9.8	98	NNE	1.3	0.6			10n			0.929	23.60	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.86	758.4	30.07	763.5	50.7	10.4	85	NW	7.0	3.1			10n			0.181	45.97	Light rain	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.94	760.5	30.01	762.2	57.3	14.1	73	SSW	13.6	6.1			10s			0.693	17.65	Cloudy.	The Staff.
Wakayama	29.86	758.4	29.91	759.7	59.1	15.1	91	S	11.8	5.3			10n;s			1.020	25.91	Raining	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.12	638.1	30.38	771.6	38.3	3.5	41	SW			1	0	0			0	0	Fine	Prof. L. Perez.
Leon	24.52	622.7	30.37	771.3	48.0	8.9	69	SW			1	0	0			0	0	Hazy	Prof. M. Leal.
Mazatlan	29.77	756.1	30.03	762.8	66.2	12.9	100	SE			2	2	0			0	0	Foggy	F. Quijano, C. E.
Mexico, Central Observatory	23.15	588.0	30.41	772.5	39.9	4.4	47	Calm	0	0		0	0			0	0	Fine	The Staff
Morelia	24.16	613.7			58.1	14.5	36	SE			4	3c	0	S		0	0	Clear.	M. Fena, M. D.
Pabellon (Aguascallientes)	24.04	610.7	30.23	767.8	48.2	6.2	42	NW			1	0	0			0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.9	30.50	774.6	37.8	3.2	56	Calm	0	0			0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.29	617.0	30.56	776.1	38.8	3.8	58	SE			2	1	1	W	W	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.24	768.2	30.26	768.5	68.0	20.0	76	N			3	6	2	NE	N	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	30.26	768.6	30.29	769.3	69.8	21.0	60	N	12.9	5.8			9sk			0	0	Cloudy	Prof. J. Rossell.
Zacatecas	22.61	574.3	30.40	772.2	42.8	6.0	46	SW			1	0	0			0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.6 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.1	29.89	759.1	43.0	6.1		S			3					0.106	2.7		
Groningen	29.89	759.3	29.95	760.7	39.2	4.0		ESE			2					0	0		
Helder	29.89	759.3	29.89	759.3	39.4	4.1		SSE			2					0	0		
Hellevoetsluis	29.89	759.1	29.89	759.1	42.8	6.0	86	SSE			2					0.059	1.5		
Utrecht	29.87	758.8	29.92	760.0	43.2	6.2	73	SSE			2		5			0	0	Cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.00	762.1	30.06	763 5	42.8	6.0	59	SSE	15.4	6.9			4			0	0		
Brönö	30.19	766.8	30.23	767.8	32.4	0.2	78	E	9	4			0			0	0		
Christiana	30.16	766.0	30.31	769.9	30.6	— 0.8	83	ENE	11	5			10			0	0		
Tromsö	30.31	769.8	30.35	770.9	24.4	— 4.2	81	SW	4	2			7			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.48	748.8	29.69	754.2	59.9	15.5	91	WSW			7		7			0	0		Dr. J. A. Sampaio.
Campo Major	29.01	736.8	30.02	762.6	51.8	11.0	93	SSW	11.2	5.0			10			0.142	3.6		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.05	763.2	30.13	765.4	66.2	19.0	60	SW	11.9	5.3			1			0.031	0.8		Capt. D. A. de Cunha.
Lisbon Observatory	29.57	751.0	29.93	760.2	56.1	13.4	89	SSW	27.3	12.2			10			0.189	4.8		The Staff.
Ponta Delgada (Azores)	29.71	754.6	29.78	756.4	62.6	17.0	83	W	32.2	14.4			10			0	0		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Force. 0–10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias											A. G. da Silva Costa, Com'd't.
D. Fernando											A. M. de Sande, Com'd't.
Duque da Terceira											J. C. M. Cabrate, 1st Lt.
Mindello											J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Matto											H. de C. C. e Athayde.
Rio Duro											J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa											
Porto Praya, Cape Verd Ids.	74.8	23.8		NE	5	2	NE	3	NE	D. clouds	A. de Souza Roza, 2nd L't
Sá da Bandeira											F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello.											
St. Paul de Loando	83.3	28.5		WNW	2	8	WNW			D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes,											
Macao, China	56.1	13.4		NE	3	10	NE	1		Raining, 4 hr's rain-fall	J. G. Felgo, 2nd Lieut.

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Archangel	30.70	779.8	30.72	780.3	— 8.0	—22.2	78	ESE	9	4			0						Capt. Sseliwerstow.
Astrakhan	30.16	766.0	30.08	763.9	28.0	— 2.2	83	Calm	0	0			10ks						Capt. Wisganow.
Barnaul	29.95	760.7	30.53	775.5	—13.9	—25.5	80	Calm	0	0			9					Light clouds	Meteorological Obs.
Dorpat	30.08	764.0	30.34	770.6	24.3	— 4.3	66	E	9	4			6k						Prof. Dr. Weihrauch.
Ekaterinburg	29.41	746.9	30.53	775.1	—16.8	—27.1	76	N	18	6		8c						Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	30.11	764.7	30.41	772.5	— 1.7	- 18.7	73	NNE	11	5			1						Physical Cabinet.
Kertch	30.20	767.0	30.22	767.5	28.2	— 2.1	98	E	4	2			8						Lagorio.
Kieff	29.35	745.6	30.03	762.7	28.0	— 2.2	96	SSE	4	2			10n					Snowing	Physical Cabinet.
Krotkowo*	29.76	755.8	30.29	769.3	1.4	—17.0	67	NNE	11	5			4k						Cand. Fatjanow.
Lugan	29.93	760.3	30.16	766.0	15.8	— 9.0	75	NW	4	2			5					Light clouds	Meteorological Obs.
Moscow	29.71	754.7	30.31	769.9	18.9	— 7.3	78	ESE	7.8	3.5			10s					Snowing	Meteorological Obs.
Nertchinsk	27.93	709.4	30.51	775.0	— 4 2	—20.1	74	Calm	0	0			7					Light clouds	Meteorological Obs.
Nikolaiev	30.14	765.5	30.21	767.3	22.8	— 5.1	90	SSE	4	2			10n						Kurdakof.
Nukuss	30.19	766.7	30.44	773.1	24.4	— 4.2	50	SSW	4	2			3ks						
Orenberg																			
Pekin (China)	30.05	763.2	30.19	766.8	33.6	0.9	80	Calm	0	0			0						Physical Observatory.
St. Petersburg	30.36	771.1	30.37	771.5	21.6	— 5.8	80	ENE	11	5			10kn						Central Physical Obs.
Tashkend	28.88	733.5	30.61	777.4	17.2	— 8.2	73	Calm	0	0			0						Teich, A. M.
Tiflis	28.78	730.9	30.24	768.1	41.0	5.0	50	S	4	2			0						Physical Observatory.
Vladivostock																			
Warsaw	29.67	753.5	30.11	764.8	31.3	— 0.4	87	NNW	13	6			10n					Light snow	Astronomical Obs.
Wilna	29.65	753.1	30.09	764.3	28.9	— 1.7	93	NE	7	3			10					Snowing	Astronomical Obs.
Yeniseisk	30.37	771.1	30.71	779.9	—11.7	—24.3	65	Calm	0	0			0						Marks.

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.94	760.4	30.05	763.2	55.4	13	75	SE	3.2	1.44			2			0	0	Clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.69	754.0	29.74	755.4	62.2	16.8	50	S	4.3	1.92		2	4	SW		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.88	682.8			46.4	8.0	86	S	12.5	5.59		0	9			0.157	4.0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.72	704.0	29.98	761 4	49.5	9.7	92	S	23.1	10.34			10			0.055	1.4	Covered	The Staff.
Murcia, Met. Obs'y	29.93	760.1	30.08	763 9	64.4	18.0	63	SSW	1.2	0.53		4	4	NE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.68	728.4	29.57	751.0	53.1	11.7	96	SW	23.0	10.3			10			0.945	24.0	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.03	762.9	30.11	764.5	72.6	22.6	84	SSW	0.9	0.4			10n		NNW	0	0	Cloudy	Benito Vines, S. J.
Manilla, Phillippine Islands	29.91	759.6	29.96	760.9	81.0	27.2	76	SE	1.1	0.5						0	0	Very fine	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.5	30.12	765.1	56.5	13.4	94	S	10.6	4.7		0	10		S	0.419	10.6	Raining	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.08	764.0	30.17	766.3	74.5	23.6	80	SE	16.7	8.33		3kn	4kn	SE	SE	0.079	2.0	Cloudy	Enrique Gadea, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.49	774.4	30.53	775.4	15.8	— 9.0	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.37	771.4	30.42	772.7	19.8	— 6.8	94	NE	.....	.....	2	.....	8	.....	.....	0.055	1.4	.....	
Hernosand	30.35	770.9	30.40	772.2	25.5	— 3.6	82	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	30.16	766.1	30.34	770.6	30.2	— 1.0	88	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.15	765.9	30.21	767.4	32.4	0.2	78	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.26	768.5	30.34	770.7	28.0	— 2.2	88	N	8.7	3.9	.....	.....	10	.....	.....	0.026	0.66	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 20° 28', W. 83° 51'	.....	.....	30.06‡	763.5‡	74.1	23.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.7	30.09	764.8	36.7	2.6	71	N	.....	.....	2	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.39	721.1	30.10	764.4	35.2	1.8	75	NW	.....	.....	1	.....	4	.....	.....	0	0	Fair.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.4 mm.; Thermometer, —1.0 Cent. Relative Humidity, —1 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.13	765.2	44.2	6.8	58	ESE	7	3.0	.....	.....	6	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.1	52.3	11.3	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.00	761.0	61.2	16.2	58	NW	.....	.....	1	2c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	30.23	767.8	30.31	769.9	—15.3	—26.3	94	Calm	0	0	.....	6c	2ks	W	.....	0.24	6.1	Fair.....	Hon. J. Ferguson.
Chatham, N. B.	30.23	767.8	30.31	769.9	—15.3	—26.3	94	Calm	0	0	.....	6c	2ks	W	.....	0.24	6.1	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	30.24	768.1	30.28	769.1	1.4	—17.0	100	NW	4	1.8	.....	c	5s	.....	.....	0.30	7.6	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.86	758.4	30.07	763.8	6.8	—14.0	70	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B.	30.12	765.0	30.30	769.6	5.0	—15.0	.....	E	.....	.....	1	.....	10s	.....	.....	0.10	2.5	Cloudy.....	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	— 4.0	—20.0	100	SE	6	2.7	.....	3cs	0	Calm	.....	0.05	1.3	Clear.....	J. McWilliams.
Fredericton, N. B.	30.21	767.3	30.28	769.1	— 5.9	—21.1	100	Calm	0	0	.....	.....	Haze	.....	.....	0.22	5.6	Hazy.....	Prof. Harrison.
Fort Garry, Manitoba	28.81	731.8	29.70	754.4	11.5	—11.4	96	NE	8	3.6	.....	0	Haze	.....	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	28.86	733.0	30.02	762.5	26.2	— 3.2	99	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	James Grant.
Halifax, N. S.	30.13	765.3	30.27	768.8	12.9	—10.6	96	N	4	1.8	.....	.....	9ks	.....	.....	0.071	1.81	Cloudy.....	A. Allison.
Hamilton, Ontario	29.70	754.4	30.09	764.3	27.7	— 2.4	83	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.70	754.4	30.06	763.5	24.4	— 4.2	77	S	5	2.2	.....	10k	0	NW	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S.	30.12	765.0	30.16	766.1	20.2	— 6.6	89	SE	3	1.3	.....	.....	10n	.....	.....	0.90	22.9	Overcast.....	C. H. Rigby.
Montreal, Quebec	29.89	759.2	30.10	764.5	18.2	—10.4	93	NE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nrson.
Norwood, Ontario	29.20	743.2	30.00	762.0	25.0	— 3.9	97	S	2	0.9	.....	.....	10s	.....	.....	Inap.	Inap.	Snowing.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.20	743.2	30.00	762.0	24.0	— 4.4	87	Calm	0	0	.....	5k	5ks	W	.....	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.32	744.7	30.05	763.3	27.0	— 2.8	88	Calm	0	0	.....	.....	10n	.....	.....	0.01	0.3	Light snow..	H. Morgan.
Port Stanley, Ontario	29.38	746.2	30.06	763.5	28.2	— 2.1	95	W	7	3.1	.....	.....	10n	.....	.....	0.02	0.5	Light snow..	M. Payne.
Quebec, Quebec	29.82	757.4	30.17	766.3	19.0	— 7.2	100	NE	.....	.....	8	.....	10n	.....	.....	0.20	5.1	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.52	749.8	30.03	762.7	5.1	—14.9	57	E	2	0.9	.....	.....	10n	.....	.....	.....	.....	Light snow.	W. H. McIntyre.
St. John, N. B.	30.09	764.3	30.27	768.8	12	—11.1	80	NE	6	2.7	.....	0	9ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Saugeen, Ontario	29.26	743.2	30.00	762.0	31.0	— 0.6	90	SW	12	5.4	.....	.....	10ks	.....	.....	0	0	Cloudy.....	Mrs. K. Stewart.
Stratford, Ontario	28.68	728.5	30.03	762.7	26.0	— 3.3	91	W	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Sydney, C. B.	30.24	768.1	30.29	769.4	6.7	—14.1	95	Calm	0	0	.....	6c	0	W	.....	0.64	13.7	Fair.....	T. C. Hill, C. E.
Toronto, Ontario	29.66	753.4	30.06	763.5	28.6	— 1.9	82	W	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	Magnetic Observatory
Windsor, N. S.	30.16	766.1	30.26	768.6	14.0	—10.0	91	NE	3	1.3	.....	.....	10ks	.....	.....	0.10	2.5	Fair.....	Prof. John E. Oram, M. A
Woodstock, Ontario	28.95	735.3	30.07	763.8	26.3	— 3.2	90	S	.....	.....	.....	.....	10s	.....	W	0	0	Overcast.....	Professor Wolverton.
Yarmouth, N. S.	30.12	765.0	30.19	766.8	20.0	— 6.7	91	E	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.88	758.9	30.15	765.8	10	—12.2	75	NW	.....	.....	.....	0	0	.....	.....	Blank	Blank	Fair.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.69	754.1	17.6	— 8.0	.....	N	.....	.....	2	.....	.....	.....	.....	0	0	.....	The Commandant

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.11	764.8	25	— 3.9	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Alpena, Michigan	29.32	744.7	30.00	762.0	20	— 6.7	85	Calm	0	0	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.98	736.1	30.18	766.6	35	1.7	70	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.97	761.2	29.99	761 7	40	4.4	91	N	14	6.3	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	
Augusta, Georgia	29.95	760.7	30.16	766.1	44	6.7	60	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Baltimore, Maryland	30.00	762.0	30.05	763.3	39	3.9	64	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.97	761.2	30.00	762.0	39	3.9	91	NE	19	8.5	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Bismarck, Dakota	27.86	707.6	29.72	754.9	21	— 6.1	85	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.78	731.0	30.18	766.6	28	— 2.2	77	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Boise City, Idaho	26.94	684.3	29.90	759.4	38	3.3	81	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.96	761.0	30.12	765.0	32	0.0	79	SE	15	6.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Brackettville, Texas	29.08	738.6	30.20	767.1	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.50	723.9	29.52	749.8	22	— 5.6	86	W	24	10.7	.....	2cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	30.27	768.8	30.32	770.1	41	5.0	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.30	744.2	30.03	762.7	28	— 2.2	77	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.80	756.9	30.11	764.8	17	— 8.3	83	SE	1	0.4	.....	2ck	8ks	SW	SW	0.02	0.5	Cloudy	
Cairo, Illinois	29.80	756.9	30.22	767.6	34	1.1	70	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	27.46	697.5	30.03	762.7	30	— 1.1	57	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	55	12.8	100	W	4	1.8	.....	.....	10n	.....	W	0.97	24.6	Light rain	
Cape Henry, Virginia	29.85	758.2	29.87	758.7	51	10.6	79	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Lookout, N. Carolina	29.96	761.0	29.98	761.5	55	12.8	87	SW	12	5.4	.....	.....	10n	.....	W	0.88	22.4	Light rain	
Cape May, New Jersey	29.93	760.2	29.96	761.0	41	5.0	82	N	12	5.4	.....	.....	10ks	.....	N	0	0	Cloudy	
Castroville, Texas	29.47	748.5	30.23	767.8	32	0.0	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	30.16	766.1	30.19	766.8	54	12.2	61	N	21	9.4	.....	0	0	.....	.....	1.78	45.3	Clear	
Charleston, South Carolina	30.00	762.0	30.06	763.5	52	11.1	66	W	7	3.1	.....	5ck	0	W	.....	0.46	11.7	Fair	
Charlotte, North Carolina	29.15	740.4	29.98	761.5	43	6.1	75	NW	7	3.1	.....	0	2s	.....	W	0	0	Fair	
Chattanooga, Tennessee	29.59	746.5	30.24	768.1	34	1.1	79	Calm	0	0	.....	0	Sm'c	.....	Calm	0	0	Clear.	
Cheyenne, Wyoming	23.86	606.5	29.82	757.4	28	— 2.2	54	W	8	3 6	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.30	744.2	30.01	762.2	34	1.1	43	SW	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Cincinnati, Ohio	29.50	749.3	30.19	766.8	30	— 1.1	68	NW	3	1.3	.....	7k	0	NW	.....	Inap.	Inap.	Fair	
Cleveland, Ohio	29.33	745.0	30.09	764 3	28	— 2.2	88	SW	6	2.7	.....	.....	10n	.....	SW	0.04	1.0	Light snow	
Coleman City, Texas	28.38	720.8	30.14	765.5	32	0.0	69	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Columbus, Ohio	29.25	742.9	30.14	765.5	29	— 1.7	67	W	9	4.0	.....	.....	10ks	.....	W	0	0	Cloudy	
Concho, Texas	28.26	717.8	30.04	763.0	30	— 1.1	78	N	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.76	755.9	30.26	768.6	36	2.2	61	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.30	744.2	29.96	761.0	30	— 1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y					32	0.0	100	Calm	.....	.....	0	.....	10n	.....	Calm	0.63	16.0	Light snow.	
Deadwood, Dakota	25.09	637.3	.....	.....	26	— 3.3	75	Calm	0	0	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Decatur, Texas	28.94	735.1	30.15	765.8	46	7.8	77	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Delaware Breakwater, Del	29.95	760.7	29.97	761.2	41	5.0	91	NE	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denison, Texas	29.36	745.7	30.19	766.8	35	1.7	70	S	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Denver, Colorado	24.66	626.4	29.88	758.9	26	— 3.3	63	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.92	734.6	29.82	757.4	33	0.6	70	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.35	745.5	30.05	763.3	29	— 1.7	89	W	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Dodge City, Kansas	27.41	696.2	29.85	758.2	18	— 7.8	83	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.20	741.7	29.93	760.2	27	— 2.8	64	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.06	738.1	29.77	756.1	18	— 7.8	84	NW	6	2.7	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Eagle Pass, Texas	29.48	748.8	30.24	768.1	46	7.8	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eastport, Maine	30.16	766.1	30.23	767.8	18	— 7.8	84	NE	15	6.7	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	
Edinburg, Texas					43	6.1	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas																			
Erie, Pennsylvania	29.32	744.7	30.07	763.8	30	— 1.1	89	S	5	2.2	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Escanaba, Michigan	29.26	743.2	29.96	761.0	13	—10.6	62	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.56	725.4	30.16	766.1	37	2.8	81	E	5	2.2	.....	10cs	0	Calm	.....	.....	.....	Cloudy	
Fort Apache, New Mexico					20	— 6.7	70	E	1	0.4	.....	0	0	.....	.....		0	Clear.	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.66	702.6	29.59	751.6	13	—10.6	81	NW	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear.	
Fort Custer, Montana	26.56	674.6	.....	.....	28	— 2.2	88	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.29	642.4	30.25	768.3	32	0.0	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.60	751.8	30.16	766 1	34	1.1	70	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.81	647.9	30.11	764.8	29	— 1.7	45	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.80	731 5	30.12	765.0	41	5.0	57	S	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.02	686.3	.....	.....	25	— 3.9	72	SW	5	2.2	.....	0	2s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.88	608.1	29.90	759.4	32	0.0	60	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.85	732.8	30.02	762.5	30	— 1.1	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	27.79	705.8	.....	.....	16	— 9.4	82	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona					24	— 4.4	87	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.45	722.6	30.08	764 0	38	3.3	45	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	30.28	769.1	30.32	770.1	48	8.9	70	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan																			
Helena, Montana	29.33	745.0	30.00	762.0	33	0.6	89	SE	12	5.4	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Henrietta, Texas	29.17	740.9	30.15	765.8	36	2.2	61	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.30	744.2	30.14	765.5	23	— 5.0	73	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	30.30	769.6	30.33	770.4	50	10.0	65	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Jacksboro, Texas	29.02	737.1	30.21	767.3	37	2.8	81	S	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.12	765.0	30.14	765.5	54	12.2	61	NW	8	3.6	.....	2cs	0	Calm	.....	Inap.	Inap.	Clear.	
Keokuk, Iowa	29.31	744.5	29.95	760.7	32	0.0	79	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear.	
Key West, Florida	30.06	763.5	30.09	764.3	73	22.8	85	W	12	5.4	.....	5k	5s	W	W	0.06	1.5	Cloudy	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	55	12.8	100	SW	15	6.7	.....	.....	10n	.....	SW	0.18	4.6	Light rain	
Knoxville, Tennessee	29.18	741.1	30.24	768.1	32.5	0.3	84	W	3	1.3	.....	1k	2ks	NW	NW	0	0	Fair	
La Crosse, Wisconsin	29.06	738.1	29.82	757.4	26	— 3.3	75	S	8	3.6	.....	1cs	0	Calm	.....	0	0	Fair	
La Mesilla, New Mexico	26.20	665.5	30.35	770.9	22	— 5.6	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.88	758 9	30.24	768.1	55	12.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.08	738.6	29.96	761.0	32	0.0	69	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Lewiston, Idaho					30	— 1.1	100	W	2	0.9	.....	.....	10n	.....	Calm	0.01	0.3	Snowing	
Little Rock, Arkansas	29.92	760.0	30.30	769.6	33	0.6	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.73	755.1	30.08	764.0	47.0	8.3	81	N	5	2·2	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.57	751.1	30.15	765.8	35	1.7	70	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Lynchburg, Virginia	29.31	744.5	30.00	762.0	44	6.7	83	NW	3	1.3	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Madison, Wisconsin	28.90	734.0	29.92	760.0	26	— 3.3	75	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.18	741.1	29.92	760.0	21	— 6.1	71	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear.	
Mason, Texas	28.55	725.2	30.40	772.1	34	1.1	52	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.89	759.2	30.25	768.3	37	2.8	71	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.20	741.7	29.96	761.0	30	— 1.1	78	SW	6	2.7	.....	2cs	1s	Calm	Calm	0	0	Fair	
Mobile, Alabama	30.25	768.3	30.29	769.4	41	5.0	74	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Montgomery, Alabama	30.03	762.7	30.28	769.1	39	3.9	81	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.97	735.8	29.98	761.5	30	3.9	73	SW	4	1.8	.....	.....	10ks	.....	SW	0.03	0.8	Cloudy	
Mt. Washington, N. H.	28 56	698.4	29.02	760.0	23	— 5.0	78	S	12	5.4	.....	8k	10ks	Calm	S	0.03	0.8	Cloudy	
Nashville, Tennessee	29.66	753.4	30.22	767.6	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.95	760.7	30.07	763.8	31	— 0.6	79	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Cloudy	
New London, Connecticut	30.04	763.0	30.09	764.3	35	1.7	80	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.23	767.8	30.29	769.4	52	11.1	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.00	762.0	30.06	763.5	36	2.2	80	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.87	758.7	30.06	763.5	33	0.6	79	NE	13	5.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Norfolk, Virginia	29.84	757.9	29.90	759.4	49	9.4	85	NE	6	2.7	.....	.....	10s;hz	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	26.97	685.0	29.66	753.4	23	— 5 0	73	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter	29.58	751.3	29.62	752.3	35.0	1.7	90	NW	1	0.4	.....	.....	10n	.....	Calm	0.25	6.3	Light snow.	
Omaha, Nebraska	28.69	728.7	29.82	757.4	30	— 1.1	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Oswego, New York	29.74	755.4	30.07	763.8	31	— 0.6	94	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Pembina, Dakota	28.65	727.7	29.51	749.5	18	— 7.8	100	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.27	768.8	30.30	769.6	45	7.2	61	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Philadelphia, Pennsylvania	29.97	761.2	30.02	762 5	33	0.6	89	NE	15	6.7	.....	10k	0	NW	.....	0	0	Cloudy	
Phœnix, Arizona	28.93	734.8	30.82	782.8	38	3.3	63	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.49	444.2	29.70	754.4	1	—17.2	71	NW	36	16.1	.....	1cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.32	744.7	30.18	766.6	40	4.4	65	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.02	610.1	29.78	756.4	25	—3.9	62	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.23	742.4	30.06	763.5	35	1.7	80	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Port Huron, Michigan	29.32	744.7	30.02	762.5	28	— 2.2	77	SW	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Portland, Maine	30.11	764.8	30.16	766.1	28	— 2.2	88	NE	11	4.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Portland, Oregon	29.59	751.6	29.66	753.4	35	1.7	90	Calm	0	0	.....	0	2s	.....	S	1.72	43.7	Fair	
Portsmouth, North Carolina	.....	.....	.....	.....	54	12.2	93	W	14	6.3	.....	.....	10n	.....	W	0.46	11.7	Light rain	
Prescott, Arizona	24.82	630.4	30.18	766.6	14	—10.0	82	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.07	763.8	30.08	764.0	66	18.9	74	NW	27	12.1	.....	0	8ks	.....	NW	0.55	14.0	Fair	
Red Bluff, California	29.76	755.9	30.13	765.3	41	5.0	78	W	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.42	747.3	30.07	763.8	25	— 3.9	87	SW	3	1.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Roseburg, Oregon	29.24	742.7	29.81	757.2	45	7.2	84	SW	12	5.4	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Sacramento, California	30.06	763.5	30.14	765.5	38	3.3	91	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.51	749.5	30.12	765.0	28	— 2.2	66	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.78	731.0	29.63	752.6	24	— 4.4	88	SE	14	6.3	.....	5ck	0	W	.....	0.03	0.8	Fair	
Salt Lake City, Utah	25.57	649.5	29.90	759.4	29	— 1.7	56	SE	8	3.6	.....	.....	10c	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29 61	752.1	30.23	767.8	37	2.8	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	30.02	762.5	30.10	764.5	47	8.3	76	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.41	747.0	30.11	764.8	30	— 1.1	89	SW	9	4.0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Sandy Hook, New Jersey	30.00	762.0	30.03	762.7	35	1.7	80	NE	20	8.9	.....	.....	10s	.....	E	0	0	Cloudy	
San Francisco, California	30.12	765.0	30.19	766.8	45	7.2	92	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	28.26	690.8	29.80	756.9	6	—14.4	52	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Savannah, Georgia	30.06	763.5	30.16	766.1	50	10.0	58	NW	6	2.7	.....	0	0	.....	.....	0.21	5.3	Clear.	
Shreveport, Louisiana	30.05	763.3	30.29	769.4	36	2.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.98	761.5	30.01	762.2	57	13.9	94	SW	4	1.8	.....	5k	5s	SW	Calm	0.69	17.5	Cloudy	
Socorro, New Mexico	25.53	648.4	29.60	751.8	18	— 7.8	53	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.37	746.0	30.08	764.0	31	— 0.6	78	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	29.98	761.5	30.12	765.0	30	— 1.1	78	N	5	2.2	.....	.....	10s	.....	E	0	0	Threatening	
Stockton, Texas	27.09	688.1	30.09	764.3	33	0.6	51	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	30.08	764.0	30.13	765.3	34	1.1	100	E	19	8.5	.....	.....	10s	.....	E	0	0	Cloudy	
Toledo, Ohio	29.36	745.7	30.08	764.0	32	0.0	59	W	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Tucson, Arizona	27.62	701.5	30.17	766.3	34	1.1	70	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.20	741.7	29.69	754.1	35	1.7	95	SE	4	1.8	.....	.....	10n	.....	.....	0.16	4.1	Light rain	
Uvalde, Texas	29.36	745.7	30.26	768.6	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	39	3.9	91	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Virginia City, Montana	28.78	608.2	29.23	742.4	28	— 2.2	32	SW	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Visalia, California	29.70	755.9	30.15	765.8	34.5	1.4	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.93	760.2	30.04	763.0	38	3.3	72	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	89	NW	.....	.....	1	5c	0	SW	.....	0	0	Fair	
Wilmington, North Carolina	29.90	759.4	29 98	761.5	54	12.2	93	SW	1	0.4	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Winnemucca, Nevada	25.53	648.4	29.89	759.2	40	4.4	19	SW	20	8.9	.....	.....	9s	.....	SW	0	0	Cloudy	
Wood's Holl, Massachusetts	30.05	763.3	30.09	764.3	41	5.0	73	E	12	5.4	.....	.....	10s	.....	NE	0.15	3.8	Threatening	
Yankton, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Yuma, Arizona	29.96	761.0	30.12	765.0	42	5.6	50	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Sub-Series.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	76	24.4	82	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.97	761.2	30.05	763.3	77	25.0	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.99	761.7	75	23.9	90	SE	.....	.....	2	.....	8ks	SE	.....	0.420	10.67	Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.42	747.3	29.97	761.2	79	26.1	80	Calm	.....	.....	0	.....	8ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.18	766.6	30.28	767.8	—26.0	—32.2	.....	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.8 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,704.9 ft., or 2,653.4 m.; Boise City, 2,677 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,600 (?) ft., or 792 (?) m.; Cheyenne, 6,087.8 ft., or 1,856.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,700 (?) ft., or 533 (?) m.; Deadwood (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,500 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,293 (?) ft., or 1,580 (?) m.; Fort Grant, 4,825 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,850 inches, or 47.14 millimeters; Boise City, 1.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.83 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.30‡	769.6‡			48	8.9	70	NW	9	4.0			0			0	0			Clear	
Navy Yard, Portsmouth, N. H.	30.11‡	764.8‡			25	— 3.9	87	E	5	2.2			10							Fair	
Naval Hospital, Yokohama, Japan	30.06‡	763.5‡			56	13.3	81	SW			6		7ks;n		SW	Slight	Slight			Light rain	
Adams, Mazatlan, Mexico.	30.13‡	765.3‡			60	15.6	88	NNE			1		0					Rough		Clear	
Alaska, Callao, Peru	29 91‡	759.7‡			70	21.1	90	Calm			0		10							Overcast	
Colorado, New York, N. Y.	30.04‡	763.0‡			38	0.6		NNE	10	4.5			10		Calm	0	0			Overcast	
Constitution, Aspinwall, Panama	29.91‡	759.7‡			79	26.1	78	NNW			2		1					Mod'ate	N	Clear	
Enterprise, Villafranca, France	30.18‡	766.6‡			54	12.2	100	W			2		10		wsw			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.93‡	760.2‡			51	10.6	79	NNW	8.4	3.8			10		NW	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.21‡	767.3‡			44	6.7	100	SW	1.2	0.5			1		SE	0	0			Clear	
Kearsarge, Shephard's Harbor, Chiriqui	29.99‡	761.7‡			76	24.4	86	WSW			0–1		0					Smooth		Clear	
Lackawana, Navy Yard, Mare I'd., Cal.	30.31‡	769.9‡			69	9.4	93	SW			1–2		0							Clear	
Marion, S. 36° 45′, W. 54° 18′	29.36‡	745.7‡			68	20.0	90	NW			6		8		W	Heavy	Heavy	Rough cross	N;E	Squally	
Michigan, Erie, Pa.	30.02‡	762.5‡			29	— 1.7	78	S			2		10		S					Light snow.	
Monocacy, Shanghai, China.	30.24‡	768.1‡			40	4.4	91	NE			1		8		Calm					Cloudy	
New Hampshire, Port Royal, S. C.	30.08‡	764.0‡			57	10.6	72	NW	21	9.4			2	N	Calm	0.30	7.6			Clear	
Nipsic, St. Thomas, W. I.	30.14‡	765.5‡			77	25.0	61	ENE			3		2		ENE					D. clouds	
Onward, Callao, Peru †	29.91‡	759.7‡			71	21.7	90	Calm			0		10					Long	W	Cloudy	
Palos, Tientsin, China.	30.15‡	765.8‡			37	2.8	81	Calm			0		0							Clear	
Passaic, Washington, D. C.	30.04‡	763.0‡			39	3.9	82	NE			2		10							Cloudy	
Pensacola, S. 10° 55′, W. 78° 33′	29.92‡	760.0‡			72	22.2	95	SW			0–1		2					Smooth		D. clouds	
Powhatan, Off Norfolk, Va.	30.52‡	775.2‡			43	6.1	67	W			1		0			0	0			Clear	
Quinnebaug, Leghorn, Italy	30.16‡	766.1‡			60	15.6	60	NE			1		0							Clear	
Ranger, Mare I'd, Navy Yard, Cal.	30.26‡	768.6‡			48	8.9	85	NNW			1		2		Calm			Smoot		Clear.	
Richmond, Hong-Kong, China.	30.00‡	762.0‡			65	18.3	89	E			2		10			0.50	12.7	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	30.53‡	775.4‡			41	5.0	82	NW	1	0.4			5		Calm	0	0			Fair	
Santee, Annapolis, Md	30.03‡	763.3‡			39	3.9	73	NE			1		10		NW	0	0			Overcast	
Shenandoah, Montevideo, Uruguay	29.63‡	752.6‡			65	18.3	89	SW			7		10		SW			Rough	SW	Cloudy	
St. Louis, League Island, Pa.	30.05‡	763.3‡			38	3.3	72	NE	9	4.0			10		W	0	0			Cloudy	
Swatara, Gibraltar, Mediterranean.	30.11‡	764.8‡			62	16.7	88	SW			3		8		SW					Cloudy	
Tennessee, Norfolk, Va.	29.92‡	760.0‡			51	10.6	86	NNW	2	0.9			0			0	0			Overcast ?	
Trenton, Toulon, France	30.18‡	766.6‡			54	12.2	80	SSE			3		8			3 h'rs	3 h'rs			Cloudy	
Tuscarora, San Jose, Guatemala	29.95‡	760.7‡			74	23.3	81	N			0–1		0			0	0	Long	S;E	Clear	
Wabash, Boston, Mass.	30.14‡	765.5‡			35	1.7	60	E	10	4.5			10			0	0			Overcast	
Wachusett, Montevideo, Uruguay †	30.29‡	769.4‡			65	18.3	89	SW			7		10		SW	0	0	Rough	SW	Threatening	
Wyoming, Naples, Italy	30.09‡	764.3‡			54	12.2	80	NNW			1–2		10		N			Smooth	N	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
ALLAN LINE, MARINE SERIES.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 48° 11′, W. 44° 53′	29.59‡	751.6‡	28	—2.2		WNW			6		10		WNW			Mod'ate	WNW	Cloudy	
S. S. Moravian, J. Graham.																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 54° 27′, W. 19° 50′	28.50‡	723.9‡				SSE			8		8		SS			Heavy	S		A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr
S. S. Indiana, R. W. Sargent Queenestown, Ireland	29.75‡	755.6‡	49	9.4	85	SE			8		9		SE	Heavy	Heavy	Heavy	SE	Cloudy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 23° 34′, W. 108° 10′	30.16‡	766.1‡				N			3		0					Mod'ate	WNW	Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 49° 26′, W. 11° 57′	28.82‡	732.0‡	51.5	10.8	76	SW			6		8		WSW	¼ h'r	¼ h'r	Heavy	wsw	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, N. 29° 07′, E. 117° 38′	30.06‡	763.5‡	59	15.0	76	NE			5		10		NE			Moderate.	NE	Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley,																			J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander																			
San Rodio, Cal.	30.12‡	765.0‡	56	13.3		Calm			0		0			0	0	Mod'ate	W	Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, San José, Guatemala.†	29.96‡	761.0‡	78	25.6	100	E			3		2		E	0	0	Light	SW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann, Esquimault Harbor, Vancouver I'd.†	29.64‡	752 8‡	35	1.7		NW			2		10							Snowing.....	E. Polemann.
S. S. City of Panama, M. Connolly, N. 15° 20′, W. 98° 00′...†	29.97‡	761.2‡	73	22.8		E			0–1		0			0	0	Mod'ate	ESE	Clear.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury Yokohama, Japan.....†	30.02‡	763.0‡	58	14.4	64	SW			4		10			0	0	Smooth		Squally	E. LeSack.
S. S. Colima, R. R. Searle....																			
S. S. Dakota, D. E. Griffiths																			D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest.																			

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes.																			J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,....																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 42° 28′, E. 102° 55′.....*	29.58‡	751.3‡	59	15.0		W			6		10		W			Rough	NW	Threatening	B. F. Woodbury.
Brigantine George, W. H. Champlin, N 38° 26′ W 72° 48′.....	30.07‡	763 8‡	57	13.9		ESE			5		10		E	Blank	Blank	Mod'at.	E	D. clouds.....	
Iron Cross, W. Randall, N. 31° 18′, W. 20° 10′.....	30.18‡	766.6†	63	17.2	83	WSW			4		8		WSW	Slight	Slight	Long	WNW	Showery	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

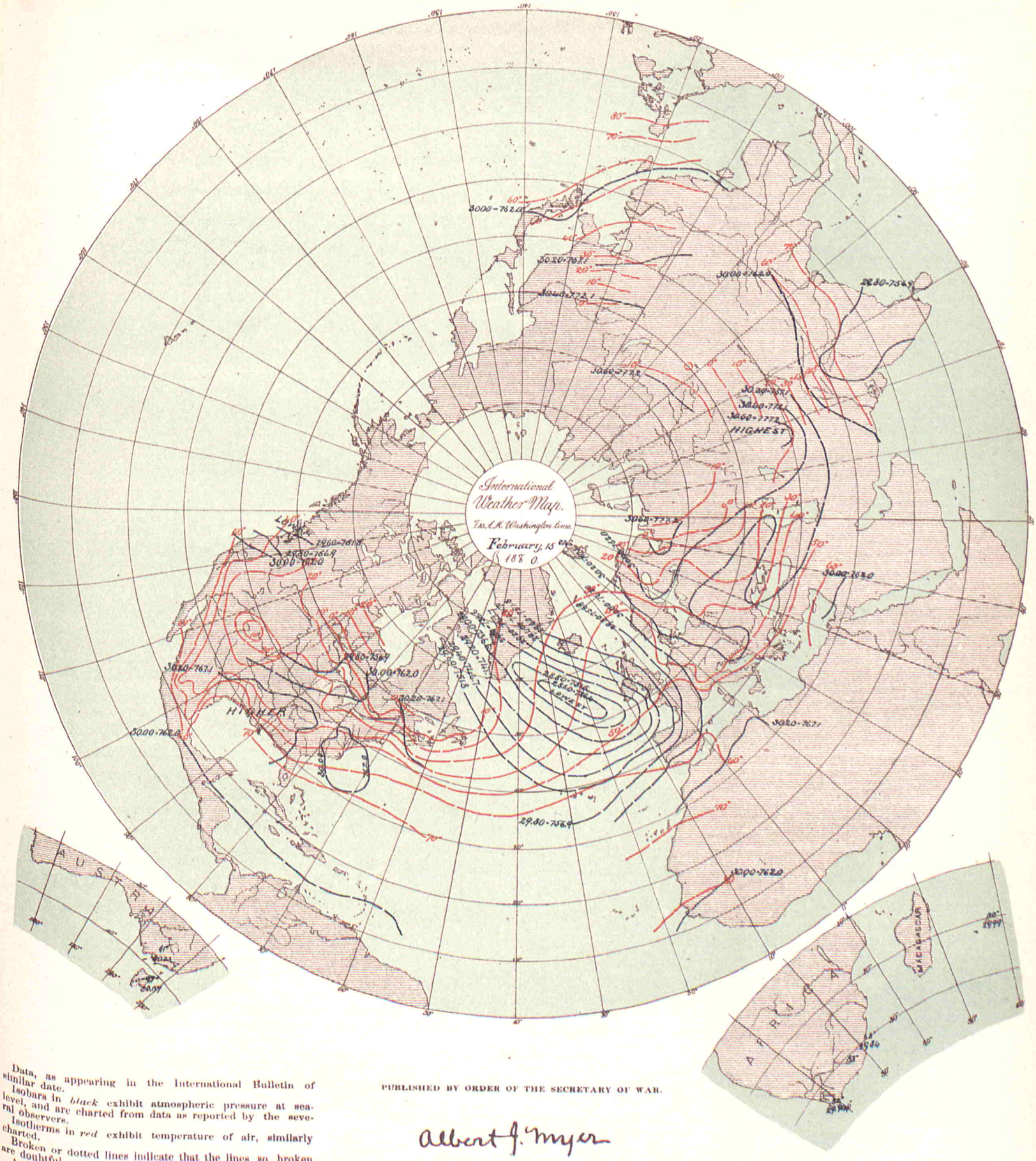
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 16, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. —10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.10	764.5				SW			4		7			0	0	Very cloudy	
Nemours			29.96	760.9	67.5	19.7	70	N			2		4			0	0	Cloudy	Kesxuche.
Algiers			29.93	760.3	57.2	14.0	52	SSW			1		0			0	0	Clear	Tourilliere.
La Calle			29.98	761.6	64.2	17.9	63	E			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			29.98	761.5															Gau.
Saida			29.99	761.8															Herbin.
Tebessa			30.15	765.9	56.1	13.4	47	WNW			2		0			0	0	Clear	Watrin.
Geriville																			Brugniaux.
Laghouat			30.16	766.0	61.5	16.4	22	SE			1		2			0	0	Fair	Bertrand.
Biskra			30.13	765.3	65.1	18.4	78	E			4		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.42	747.2	29.98	761.6	39.2	4.0	74					4				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.27	743.4	30.07	763.7	34.0	1.6	82	ENE	7.8	3.5		7				0	0		Dr. Wierzbicki.
Eperies	29.13	739.8	30.05	763.2	32.0	0.0	92	Calm			0	10				0	0		Julius Mikolik.
Gratz	28.70	728.9	30.01	762.2	32.0	0.0	85	SSW			2	10				0	0		Andreas Rospini.
Hermannstadt	28.58	725.9	30.07	763.6	36.3	2.4	84	SE			2	2				0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.47	723.2	29.87	758.7	31.1	— 0.5	92	NE			2	10				0	0		The Staff.
Lemberg	29.00	736.6	30.03	762.8	31.6	— 0.2	98	W			2	10				0.008	0.2		Dr. T. Stanecki.
Pola	29.02	760.0	30.04	762.9	42.4	5.8	55	SW			1	10				0	0		I.R. Hydrographic Office.
Szathmar	29.62	752.3	30.11	764.8	31.3	— 0.4	82	NW			3	10				0.197	5.0		Pet. Pancsics, S. J.
Szegedin	29.78	756.3	30.07	763.8	31.6	— 0.2	96	S			1	10				0	0		Karl Stancel.
Trieste	29.94	760.6	30.04	763.1	42.4	5.8	88	W			1	10				0	0	Cloudy	P. Busin.
Vienna	29.22	742.3	29.97	761.1	31.6	— 0.3	96	SE			2	10				0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.17	740.8	29.86	745.8	48.6	9.2	71	SSE			5	10				0.236	6.0	Light rain	Royal Observatory.
Furnes	29.23	742.4	29.25	743.0	46.2	7.9	91	SSW			4	10				0.256	6.5	Raining	M. E. de Cae.
Maeseyck	29.37	746.1	29.50	749.3	50.2	10.1	69	S			2	10				0.339	8.6		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.08	738.6	29.18	741.1	41.0	5.0	.....	SE	4.2	1.9	.....	.....	10	.....	.....	0.440	11.18	Raining	W. Boswell.
Ardrossan	28.85	732.8	28.87	733.3	46	7.8	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	G.Carrick.
Armagh, (Observatory)	28.46	722.9	28.69	728.7	43.1	6.2	.....	ENE	22	9.8	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston (Liverpool Obs)	.....	.....	28.66	728.0	45.8	7.7	.....	E	44	19.7	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	28.24	717.3	28.78	729.7	44.1	6.7	.....	E	36	16.1	.....	.....	10	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	28.49	723.6	28.89	733.8	44.2	6.8	98	SE	.....	.....	5	.....	10	.....	.....	0.09	1.5	Raining	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	74.5	23.6	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	28.88	733.5	28.97	735.8	46.0	7.8	.....	SE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Overcast.....	H. Todd.
Cardington	.....	.....	28.87	733.3	50.0	10.0	.....	SE	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	John McLaren.
Chatham (School M. E.)	28.93	734.8	29.06	738.1	46.1	7.8	.....	S	.....	.....	7	.....	8k	.....	.....	.....	.....	Gloomy	Lance Corp'l Hocker, R. E.
Doughadee	28.69	728.7	28.73	729.7	44	6.7	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Drizzling.....	J. Mac Gowan.
Dover	29.09	738.9	29.12	739 6	45	7.2	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Falmouth (Observatory)	28.41	721.6	28.63	727.2	48.8	9.3	.....	SW	.....	.....	8	.....	10	.....	.....	.....	.....	Squally.....	The Staff.
Fort Napier, Natal	27.53	699.2	29.75	755.6	66.7	19.3	.....	SE	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.84	757.9	86	3.0	.....	W	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	28.45	722.6	44	6.7	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	M J. O'Donaghue.
Gibraltar, Mediterranean.§	29.82	757.4	29.88	758.9	62.6	30.0	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	Blue sky.....	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	28.73	729.7	28.93	734.8	43.3	6.3	.....	ENE	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.15	740.4	29.15	740.4	41	5.0	.....	SSE	.....	.....	6	.....	8	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich (Royal Obs'y)	28.81	731.8	28.98	736.1	50.2	10.1	.....	S	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	28.69	728.7	28.92	734.6	51.5	10.8	.....	SW	.....	.....	6	.....	5	.....	.....	.....	.....	Gloomy	Dr.S.E.Hoskins, F.R.S.
Helston	28.94	735.1	29.06	738.1	50	10.0	.....	SE	.....	.....	8	.....	8	.....	.....	0.20	5.1	Showery	M. P. Moyle.
Holyhead	28.49	723.6	28.56	725.2	47	8.3	.....	SE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	28.70	729.0	28.90	736.3	50.9	10.5	.....	SW	.....	.....	7	.....	6	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew (Observatory)	28.92	734.6	28.96	735.6	51.0	10.6	.....	S	35	15.6	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	28.59	726.2	28.84	732.5	46.6	8.1	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.06	763.5	62	16 7	.....	SW	.....	.....	.....	.....	4k?	.....	.....	.....	.....	Overcast ?..	A. King.
Nairn	29.02	737.1	29.10	739.1	43	6.1	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.20	767.1	68.0	20.0	.....	NE	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham (Observatory)	28.66	728.0	28.85	732.8	46.4	8.0	.....	SE	.....	.....	6	.....	10d	.....	SE	0.330	8.38	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.24	717.3	28.75	730.2	46.2	7.9	.....	SE	.....	.....	5–6	.....	10	.....	.....	.....	.....	Threatening	Rev. Stephen J. Whity.
Oxford (Radcliffe Obs'y)	28.61	726.7	28.87	733.3	50	10.0	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	The Staff, for E. J. Stone, Esq.
Plymouth	28.56	725.4	28.64	727.4	47.8	8.8	.....	SW	.....	.....	8	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
*Roche's Point	28.36	720.3	28.43	722.1	45	7.2	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	28.28	718.3	28.44	722.4	46	7.8	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Showery.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.23	742.4	41.2	5.1	.....	SE	40	17.9	.....	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.95	760.7	30.02	762.5	41.6	5.3	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	Serg't W. H. Lyne.
Sheffield	28.58	725.9	28.85	732.8	45.0	7.2	.....	E	.....	.....	6	.....	10	.....	.....	0.48	12.2	Heavy rain..	W. F. Cooper.
Silloth Rectory	28.83	732.3	28.86	733.0	44.8	7.1	87	SE	.....	.....	4	.....	10	.....	.....	0.162	4.11	D. clouds....	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	28.79	731.3	44.5	6.9	.....	E	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Strathfield, Turgiss	28.70	729.0	28.91	734.3	50.0	10.0	.....	S	.....	.....	5–6	.....	10	.....	.....	.....	.....	Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	28.75	730.2	28.81	731.8	50	10.0	.....	SW	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia Observatory)	28.53	724.6	28.56	725.4	44.1	6.7	.....	NW	14	6.3	.....	.....	10	.....	.....	.....	.....	Raining	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.85	758.2	29.89	759.2	78.4	25.8	47	SSW	26 4	11.8	.....	2c	6cs	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2	.....	.....	85	29.4	.....	NW	.....	.....	.....	2k	5k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	80	26.7	.....	W	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.32	770.1	61.0	16.1	77	SE	.....	.....	3	.....	10k	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.01	736.8	42.0	5.6	.....	E	.....	.....	4	.....	10k	.....	.....	0.10	2.5	Overcast.....	C. Meldrum.
Mauritius (Observatory)	29.78	756.4	29.96	761.1	80.8	27.1	58	ESE	22.5	10.1	.....	2	2	.....	ESE	0.07	1.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.14	765.5	30.23	767.8	64.3	17.9	61	SE	18	8.0	.....	.....	0	.....	.....	0	0	Very fine....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	28.98	736.1	47	8.3	.....	E	.....	.....	4	3	3	E	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	29.49	749.0	.....	.....	.....	SE	.....	.....	8	10	10	SE	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 35° 39′, W. 26° 15′	.....	.....	30.08‡	764.0‡	72	22.2	.....	NNE	.....	.....	3	.....	7	.....	.....	.....	NE	D. clouds.....	Capt. Thos. Young.
City of Cashmere, S. 13° 42′, W. 35° 54′	.....	.....	29.93‡	760.2‡	79.2	26.2	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	Showery.....	Capt. W. M. Grieve.
Bute Fylde, N. 35° 00′, W. 69° 40′	.....	.....	30.29	769.4	58	14.4	.....	NNW	.....	.....	6	.....	6	.....	.....	7	NW	D. clouds.....	Capt. L. C. Dart.
S. S. German, Capetown, Cape Good Hope	.....	.....	29.81‡	757.2‡	69	20.6	.....	SSE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. O. D. Coxwell
Barque Royal Alexandra, S. 28° 19′, E. 48° 20′	.....	.....	30.09‡	764.3	81.7	27.6	.....	NE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.26	667.0	29.98	761.5	66.2	19.0	76	NE			4		3d		NE	0	0		Federico Maisen.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.94	760.5	29.99	761.7	30.7	— 0.7	85	SSE			7		10						
Farõe	29.69	754.1	29.71	754.6	33.4	0.8	80	SE			7		10						
Godthaab (Greenland)	29.67	753.7	29.72	754.8	17.6	— 8.0	97	NW			4		10						
Stykkisholm (Iceland)	29.52	749.9	29.57	751.0	32.4	0.2	89	E			2		0						
Thorshavn (Farõe)	29.37	745.9	29.40	746.8	42.1	5.6	86	SE			8		10						
Vestervig	29.69	754.1	29.80	756.9	31.8	— 0.1	87	E			8		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.39	758.8	29.24	742.8	61.6	11	86	SW			6		10		SW	0.189	4.8	Squally	Collignon, Director.
Amiens, Normal School	29.15	740.5	29.26	743.3	50.4	10.2	84	SE			3		0			0	0	Clear	Vaillant, Director.
Arras, Engin'r School	29.00	736.7	29.26	743.2	46.4	8.0	95	S			4		10n		SW	0.075	1.9	Sprinkling	Klein, Commandant.
Avignon, Normal School	29.76	755.9	29.84	757.9	47.5	8.6	100	SE			3		10			0.138	3.5	Raining	Giraud, Director.
Bar-sur-Seine																			C. Saillard, Director.
Beauvais, Normal School	29.02	737.2	29.28	743.8	51.6	10.9	81	SSW			3		10		SW	0.12	3.	Covered	Frère Eugene Marie.
Besançon, Normal School	28.76	730.6	29.70	754.3	50.0	10	68	SW			1		10		SW	0	0	Covered	A. Carré, Director.
Bordeaux	29.15	740.5	29.35	745.5	57.7	14.3	59	SE			4		8			0.094	2.40	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	28.80	731.5	29.72	754.8	50.7	10.4	70	S			7		10n	S	S			Raining	Marlot, Director.
Bourges, Normal School	28.94	735.0	29.48	748.9	51.1	10.6	93	SSE			3		10n		SSE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	28.79	731.2	29.03	737.3	53.6	12.0	80	SW			6		7		SW	0.384	9.75		Ch. de Rermarec, Dir
Caen, Normal School	29.00	736.6	29.07	738.4	54.0	12.2	67	SSW			6		5		S	0.094	2.4	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.17	740.8	29.58	751.2	57.7	14.3	67	E			4		10	W	W	0.256	6.5	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.14	740.1	29.46	748.3	47.1	8.4	97	S			4		10	NE	NE	0	0	Covered	Jadot, Director
Chartres, Normal School	28.65	727.6	29.20	741.7	34.2	1.2	9	W			3		5	E	N	1.54	39.		E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.17	715.6	29.51	749.5	54.0	12.2	58	S			4		10			0	0		Alluard, Director.
Commercy, Normal School	28.70	729.0	29.56	750.9	47.5	8.6	84	S			4		10n	S	S			Raining	Dr. Coullet, Director
Commune de Gréasque*	28.81	731.7	29.95	760.7	46.9	8.3	89	SE			2		10		SE	0.291	7.4	Raining	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.08	738.7	29.77	756.2	52.9	11.6	59	SSW			3		n			0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.07	738.4	29.28	743.8	48.9	9.4	100	SSE			3		10			0.575	14.6	Covered	Mouillot, Director.
Le Mans, Normal School	28.97	735.7	29.27	743.4	52.2	11.2	97	SSW			4		8		SSW	0.16	4.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.78	731.1	29.71	754.7	55.2	12.9	64	S			4		10n			0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.02	737.1	29.13	739.8	51.8	11.0	92	SSW			7		10		S	0.445	11.3	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.04	737.6	29.66	753.4	50.4	10.2	72	S			4		n;ns	SSW	SSE	0.161	4.1		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.61	752.2	29.88	759.0	52.0	11.1	79	S			3		10		SE	0.094	2.4	Covered	E. Stephan, Director.
Mirecourt, Normal School	28.57	725.6	29.61	752.1	48.7	9.3	84	S			4		10			0	0	Covered	Barbier, Director.
Mont-Louis	24.53	623.0	29.84	758.0	37.8	3.2	89	SW			4		10			0.016	0.4		M. Cave, for Dr. Fines.
Nice	29.95	760.8	29.99	761.7	60.0	10.0	74	N			2		5	NE	NE			Light rain	Capt. Boissière, Director.
Nismes, Normal School	29.54	750.4	29.75	755.7	51.6	10.9	72	S			3		8		S	0.31	8.	Slightly cl'd'y	M. Boyer, Director.
Perpignan	29.47	748.4	29.57	751.1	62.8	17.1	47	SW	26.2	11.7			8		SW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.13	562.0			32.0	0.0							10		SW	0	0	Covered	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	28.76	730.4	29.84	757.8	46.0	7.8	97	S			4		10	S	S	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	24.65	626.0			37.2	2.9	97	S			7		10		SW	0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.34	745.1	29.37	745.9	53.1	11.7	80	S			1		10	S	S	0.75	19.	Covered	Lt. E. Decante, Director
Rouen, Normal School	29.12	739.6	29.20	741.8	53.2	11.8	76	SE			5		10		S	0.189	4.8	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	28.97	735.8	29.00	736.5	55.4	13.0	62	SW			7		8	SW	SW	0.369	9.38	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.17	740.9	29.34	745.1	52.5	11.4	81	SSE			4		10		SW	0.051	1.3	Covered	E. Renou, Director.
Tarbes, Normal School	28.46	722.6	29.52	749.7	53.6	12	76	SE			1					0	0		T. Huguet, Director
Toulouse, Observatory	28.85	732.9	29.57	751.0	58.1	14.6	77	SSE			4		10			0	0	Covered	B. Ballland, Dir.
Tours	29.14	740.1	29.34	745.1	54.9	12.7	70	SSW			4		10		SW	0.181	4.6	Covered	M. de Tastes.
Versailles, Observatory	28.83	732.2	29.32	744.7	54.0	12.2	74	SW			4					0.176	4.47		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	28.93	734.8	29.64	752.8	51.8	11	90	SE			4		5		NW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	762.1	30.03	762.8	73.8	23.2										0.98	25.		L'Abbé Marchési
Paris, Montsouris Obs'y	29.95	737.9			52.3	11.3	80	SSW			3		10		SSW	0.161	4.1		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.19	766.7	30.21	767.4	39.6	4.2	93	ENE	11.0	4.9			10n			0.185	4.7	Raining	Marc Dechevrens, J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.93	734.7	29.78	756.4	35.2	1.8	75	SE			6		6ks	S		0	0		Prof. Dr. Hoh.
Berlin	29.72	755.0	29.90	759.5	39.0	3.9	69	SE			1		0			0	0		Prof. Dr. Arndt.
Breslau	29.48	748 7	30.01	762.2	35.2	1.8	73	SSE			2		0			0	0		Royal University Obs'y
Carlsruhe	29.21	741.9	29.63	752.7	47.3	8.5	69	S			0		10	S		0.028	0.7		Albert Senz.
Cassel	29.07	738.3	29.67	753.6	43.5	6.4	58	E			1		5	SW		0.011	0.29		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.36	745.8	29.74	755.3	43.2	6.2	47	E			3		7			0	0		Physical Society.
Friedrichshafen	28.29	718.5	29.76	755.9	36.0	2.2	69	SW			3		2	S		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.69	754.0	29.76	755.8	36.1	2.3	75	ESE			5		3			0	0		Dr. Reinhold Kleeman.
Kiel	29.75	755.6	29.76	756.0	36.1	2.3	74	ESE			6		4			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.09	764.2	30.17	766.4	23.9	— 4.5	89	NE			4		10			0	0		Prof. E. Luther.
Köslin			29.98	761.4	25.7	— 3.5		SE			4		4			0	0		H. Müller.
Leipsic Observatory	29.41	747.1	29.85	758.1	39.2	4.0	69	ESE			2		2			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.60	751.8	29.82	757.5	39.4	4.1	64	ESE			4		2cs	SSW		0	0		Dr. Assmann.
Memel	29.99	761.8	30.04	763.0	23.2	— 4.9	90	E			3		10n					Light snow.	Reinbrecht & Issermann
Munich (München)	27.94	709.8	29.86	758.4	35.1	0.6	92	NE			4		4			0	0		Dr. C. Lang.
Neufahrwasser	30.14	765.5	30.15	765.9	27.9	— 2.3	85	NE			1		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.13	740.0	29.65	753.2	43.5	6.4	68	Calm			0		10			0.020	0.5		Reallehrer Dicknether.
Posen	29.76	755.8	30.06	763.5	32.9	0.5	90	E			2		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.13	740.0	29.70	754.3	39.7	4.3	100	SW			1		10			0	0		Imp. University Observatory.
Stuttgart	28.77	730.8	29.67	753.5	50.0	10.0	52	SE			1		10			0.024	0.6		Prof. Dr. Schoder.
Thorn	29.96	760.9	30.15	765.7	30.0	— 1.1	90	SE			3		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.31	719.1	29.88	759.0	32.0	0.0	90	SE	3.1	1.4			6ck		NW	SE	0	0	Foggy	Reallehrer J. Hopfner.
Wustrow	29.91	759.7	29.93	760.3	34.3	1.3	98	ESE			5		5k				0	0		E. Schütz, Director.
German Naval Series.																				

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, except for Munich. It is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.4	30.02	762.5	53.4	11.9		NE			1.5		5					½ Clear	Dr. J. F. J Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.3	29.95	760.7	74.3	23.5	43	WSW	10	4.5			2			0	0	D. clouds	
Deesa	29.31	744.5	29.79	756.8	71.9	22.2	28	SW	10.9	4.9			8	WSW				Raining	
Bombay	29.84	758.0	29.86	759.0	74.9	23.8	66	WNW	8	3.6			2		W	0	0	D. clouds	
Poona (Yarrowda)	27.98	710.6	29.85	758.3	72.3	22.4	38	WSW	20	8.9			1		WSW	0	0	D. clouds	
Belgaum	27.30	693.6	29.87	758.8	70.1	21.2	54	WSW	6	2.7			1	SW		0	0	D. clouds	
Lahore	28.99	736.3	29.77	756.1	54.7	12.6	68	Calm	1.1	0.5			3			0	0	D. clouds	
Roorkee	28.85	732.9	29.81	757.1	51.4	10.8	90	NE	5 0	2.2			8			0.80	20.3		
Agra	29.19	741.5	29.77	756.2	67.8	19.9	44	W	6.5	2.9						0	0		
Nagpur	28.72	729.6	29.77	756.2	77.7	25.4	35	WSW	6.9	3.1			2	W		0	0	D. clouds	
Jubbulpore	28.40	721.2	29.78	756 4	70.8	21.6	42	W	4.6	2.1			4		W	0	0	D. clouds	
Lucknow	29.35	745.6	29.74	755.4	68.3	20.2	77	ESE	4.4	2.0			0			0	0	Blue sky	
Allahabad	29.47	748.6	29.80	756 8	67.4	19.7	88	ENE	4.7	2.1			4			0.09	2.3	D. clouds	
Patna	29.68	753.9	29.87	758.8	59.0	15.0	91	E	1.1	0.5			10	E	E	0.69	17.5	Overcast	
Hazaribagh	27.75	704.9	29.84	757.8	59.8	15.4	93	E	11.1	5.0			10		N	0.80	22.6	Thunder-storm	
Cuttack	29.73	755.2	29.81	757.2	78.2	25.7	68	S	5.7	2.6			0			0	0	Blue sky	
Calcutta (Alipore)	29.81	757.2	29.83	757.7	70.0	21.1	85	NNE	8.0	3.6			7		SW	0	0	D. clouds	
Goalpara	29.54	750.2	29.94	760.6	57.7	14 3	94	Calm	1.6	0.7			10			0.70	17.8	Raining	
Chittagong	29.77	756.1	29.86	758.4	73.3	22.9	70	Calm	3.1	1.4			0			0	0	Misty	
Sibsagar	29.62	752.4	29.97	761.3	61.9	16.6	94	ENE	2.0	0.9			10	W	W	0.06	1.5	Overcast	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.2	30.04	762.9	41.4	5.2	83	SW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.48	748.7	30.02	762.4	37.0	2.8	93	SSW	.....	.....	1	.....	10	.....	.....	0.083	2.1	.....	Prof. Schiaparelli.
Padua	29.91	759.6	30.02	762.5	37.6	3.1	91	N	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.08	738 5	30.02	762.4	36.8	2.4	95	ENE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.79	756.6	29.98	761.6	50.0	10.0	82	SE	3.8	1.7	.....	.....	10	SE	.....	0.146	3.7	.....	Prof. G. M. Garibaldi.
Mondovi	28.04	712.1	29.99	761.8	41.2	5.1	61	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.01	762.3	40.1	4.5	89	NE	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.76	756.0	30.03	762.7	51.3	10.7	67	NW	.....	.....	2	.....	1	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.96	760.9	30.04	763.1	52.0	11.1	73	S	4.3	1.9	.....	.....	7	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.89	759.2	30.07	763.8	52.9	11.6	60	W	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.78	756.4	30.04	763.1	52.9	11.6	71	NNE	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.17	740.8	30.07	763.6	54.0	12.2	74	NW	0.7	0.3	.....	.....	5	.....	.....	0.087	2.2	.....	Prof. D. Conti.
Cagliari	29.79	756.7	29.99	761 8	57.2	14.0	69	SE	.....	.....	2	.....	3	S	.....	0.016	0.4	.....	Prof. A. Pacinotti.
Palermo	29.84	757.8	30.00	764.3	55.9	13.3	75	NE	4.3	1.9	.....	.....	9	NNE	.....	0.028	0.7	.....	Prof. G. Ciaccia'tore.
Syracuse	30.02	762.4	30.06	763.5	57.7	14.3	80	SE	6.3	2.8	.....	.....	8	WSW	.....	0	0	.....	Prof. V.G. Guiliano.
Sub-Series.																			
Naples, S. R.	29.54	750.2	30.07	763.7	53.6	12.0	58	SW	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.14	765.5	30.15	765.8	45.5	7.5	74	NNE	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.17	766.8	46.2	7.9	85	NNE	4.1	1.8	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.98	761.5	30.05	763.3	45.5	7.5	80	N	11.7	5.2	.....	.....	10s	.....	W	0	0	Cloudy	The Staff.
Wakayama	30.10	764.5	30.15	765 8	44.6	7.0	70	NNE	9.1	4.1	.....	.....	0	.....	.....	0	0	Clear.	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.10	637.6	30.32	770.1	41.0	5.0	44	Calm	.....	.....	0	1c	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.50	622.4	30.31	769.9	51.3	10.7	73	NW	.....	.....	1	1c	0	.....	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.87	758.6	30.13	765.4	58.3	14.6	95	E	.....	.....	1	1cs	0	.....	.....	0	0	Very hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.12	587.3	30.31	769.9	43.5	6.4	66	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.14	613.1	.....	.....	59.9	15.5	40	SE	.....	.....	3	0	0	.....	.....	0	0	Very clear	M. Fena, M. D.
Pabellon (Aguascallentes)	24.00	609.5	30.17	766.4	43.5	6.4	57	W	.....	.....	1	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	28.47	696.1	30.49	774.5	38.3	3.5	51	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.23	615.4	30.47	773.9	39.2	4.0	43	SE	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.21	767.3	30.22	767.6	60.6	15.9	88	S	.....	.....	2	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.19	766.9	30.22	767.6	64.4	18.0	75	Calm	0	0	.....	.....	2k	.....	.....	0	0	Clear	Prof. J. Rossell.
Zacatecas	22.87	573.2	30.28	769.2	48.9	9.4	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7.433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.30	744.3	29.30	744.3	43.3	6.3	.....	SE	.....	.....	4	.....	.....	.....	.....	0.026	0.7	.....	
Groningen	29.47	748.4	29.52	749.8	40 1	4.5	.....	ESE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	29.38	746.2	29.38	746.2	38.5	3.6	.....	ESE	.....	.....	4	.....	.....	.....	.....	0.311	7.9	.....	
Hellevoetsluis	29.34	745.3	29.34	745.3	43.7	6.5	82	ESE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.38	746.3	29.43	747.5	44.4	6.9	71	SSE	.....	.....	4	.....	5	.....	.....	0.165	4.7	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.72	755.0	29.78	756.4	41.0	5.0	45	ESE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.03	762.7	30.07	763.7	27.0	— 2.8	57	E	22	10	.....	.....	5	.....	.....	0	0	.....	
Christiana	29.98	761.4	30.13	765.3	31.3	— 0.4	96	ESE	7	3	.....	.....	10	.....	.....	0.051	1.3	Snowing	
Tromsö	30.23	767.7	30.27	768.8	23.2	— 4.9	64	SW	7	3	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.46	748.2	29.67	753.7	53.6	12.0	80	WNW	.....	.....	6	.....	5	.....	.....	0.748	19.0	.....	Dr. J. A. Sampaio.
Campo Major	28.73	720.8	29.73	755.2	55.0	12.8	90	SSW	6.3	2.8	.....	.....	10	.....	.....	0.059	1.5	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.82	757.4	29.91	759.6	63.1	17.2	79	WNW	7.4	3.3	.....	.....	10	.....	.....	0.031	0.8	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.22	742.1	29.57	751.1	58.1	14.5	96	SSW	36.7	16.4	.....	.....	10	.....	.....	0.311	7.9	.....	The Staff.
Ponta Delgada (Azores)	29.60	751.9	29.67	753.7	53.6	12.0	57	NW	30.4	13.6	.....	.....	8	.....	.....	0.102	2.6	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction form—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Carlos Maria da Silva Costa. St. Paul de Loando.	1	W	D. clouds	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima. Capt. S. C. da Silva Costa. Porto Praya, Cape Verd Ids.	3	ENE	D. clouds	J. T. d'Oliveira, Com'd't
Sá da Bandeira	.....	.....	.....	A. de Souza Roza, 2nd L't
Sado, Capt. J. A de Brito Capello, S. 6° 26′, E. 11° 28′	2	.....	D. clouds. 8 minutes rain-fall.	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	.....	Raining, 4 hr's rain-fall.	A. Terceira, 2nd Lieut.
.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.85	783.7	30.87	784.2	—11.9	—24.4	76	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.09	764.3	30.01	762.2	18.3	— 7.6	83	NE	13	6	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Barnaul	29.95	760.8	30.52	775.3	— 5.3	—20.7	79	SW	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	30.17	766.3	30.44	773.1	14.0	—10.0	80	ESE	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	29.44	747.7	30.56	776.3	—18.6	—28.1	74	NNE	9	4	.....	7c	.....	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.21	767.4	30.52	775.3	— 6.9	—21.6	69	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	29.97	761.1	29.98	761.6	— 26.6	— 3.0	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.41	746.9	30.10	764.4	13.1	—10.5	73	ENE	7	3	.....	.....	9cks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.96	760.9	30.51	774.9	— 9.8	—23.2	59	N	11	5	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	29.79	756.7	30.02	762.4	10.9	—11.7	78	E	34	15	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.96	761.0	30.59	777.0	— 2.9	—19.4	63	ENE	7.8	3.5	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.07	712.9	30.72	780.4	—14.1	—25.6	74	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.89	759.3	29.97	761.1	32.2	0.1	90	NNW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.78	756.5	30.03	762.7	35.2	1.8	44	SSW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.54	775.8	30.56	776.2	7.3	—13.7	67	ESE	16	7	.....	.....	2ks	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.61	726.8	30.33	770.3	18.3	— 7.6	83	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.46	722.9	29.90	759.4	46.4	8.0	37	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.65	753.2	30.10	764.5	28.8	— 1.8	90	E	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.77	756.2	30.22	767.6	24.6	— 4.1	83	ESE	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.50	774.6	30.83	783.1	—16.9	—26.6	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.67	753.6	29.78	756.3	56.3	13.5	73	S	3.3	1.47	.....	.....	9	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.35	745.4	29.40	746.8	66.9	19.4	53	SW	8.9	3.97	.....	.....	10	.....	.....	0.020	0.5	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.56	674.6	.....	.....	51.8	11.0	74	S	20.6	9.23	.....	0	9	.....	.....	0.394	10.0	Almost cov'd	Domingo Martiny Perez.
Madrid, Royal Observatory	27.46	697.4	29.66	753.4	55.4	13.0	74	S	41.0	18.33	.....	.....	10	.....	.....	0.154	3.9	Covered	The Staff.
Murcia, Met. Obs'y	29.74	755.3	29.89	759.1	62.6	17.0	72	S	5.5	0.67	.....	5	5	NNE	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.19	716.1	29.07	738.3	53.4	11.9	93	SSW	59.1	26.4	.....	.....	10	.....	.....	3.760	95.5	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.14	765.6	30.21	767.3	71.4	21.9	75	NNE	10.3	4.6	.....	.....	10ks;kn	.....	NE	0.185	4.7	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.89	759.2	29.94	760.5	80.7	27.1	83	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Very fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.83	757.7	29.93	760.2	61.3	16.3	86	SSE	16.2	7.2	.....	0	10	.....	S	0.504	12.8	.....	Capt. C. Pulgar, R. N., Dir.
San Juan de Porto Rico, W. I.	30.03	762.8	30.12	765.1	74.8	23.8	89	E	11.1	4.95	.....	5kn	6kn	E	E	0.059	1.50	Cloudy	Enrique Gades, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.63	777.9	30.67	778.9	— 2.6	—19.2	.....	E	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.40	772.2	30.45	773.5	16.2	— 8.8	94	E	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	
Hernosand	30.34	770.6	30.39	771.9	24.4	— 4.2	91	Calm	.....	.....	0	.....	10	.....	.....	0.016	0.4	.....	
Stockholm	30.06	764.3	30.27	768.8	28.4	— 2.0	90	E	.....	.....	4	.....	10	.....	.....	0.008	0.2	Snowing	
Wisby	30.10	764.6	30.16	766.1	26.6	— 3.0	87	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Light snow.	
Sub-Series.																			
Upsala	30.17	766.2	30.25	768.4	28.6	— 1.9	88	ESE	8.3	3.7	.....	.....	10	.....	E	0.008	0.21	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 21° 21', W. 84° 00'	.....	.....	29.95‡	760.7‡	73.8	23.2	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.30	718.8	29.76	756.0	41.0	5.0	68	N	.....	.....	2	.....	8	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.08	713.3	29.76	756.0	41.4	5.2	63	NW	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.5 mm.; Thermometer, +1.3 Cent. Relative Humidity, —3 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.07	763.6	41.5	5.8	77	N	8	3.5	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	57.4	14.1	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.71	754.7	66.0	18.9	63	SW	.....	.....	2	.....	10cs	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	29.94	760.5	29.95	760.7	6	—14.4	.....	NE	6	2.7	.....	8ck	0	.....	.....	0	0	Fair	Hon. J. Ferguson.
Chatham, N. B.	29.92	760.0	29.98	761.5	7.8	—13.4	89	NE	1	0.4	.....	10ck	0	W	.....	0.05	1.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.79	756.7	29.83	757.7	14.4	— 9.8	100	NW	12	5.4	.....	.....	10n	.....	.....	0.39	9.9	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	30.07	763.8	30.28	769.1	6.7	—14.1	100	Calm	.....	.....	0	.....	Fog	.....	.....	0.050	1.27	Foggy	James Smith, M. A.
Dalhousie, N. B.	29.83	757.7	30.01	762.2	15.0	— 9.4	.....	W	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	10.9	— 8.4	92	W	6	2.7	.....	.....	10n	.....	.....	0.03	0.8	Cloudy	J. McWilliams.
Fredericton, N. B.	29.96	761.0	30.03	762.7	12.9	—10.6	83	NW	5	2.2	.....	cs	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.11	739.4	30.00	762.0	12.6	—10.8	95	E	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	29.08	738.6	30.25	768.3	26.2	— 3.2	99	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S.	29.64	752.8	29.78	756.4	20.7	— 6.3	95	NW	12	5.4	.....	.....	10n	.....	.....	0.570	14.48	Light snow.	A. Allison.
Hamilton, Ontario	29.88	758.9	30.28	769.1	29.3	— 1.5	79	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.90	759.4	30.27	768.8	19.4	— 7.0	83	E	1	0.4	.....	1c	Fog	.....	.....	0.02	0.5	Foggy	S. Woods, M. A.
Little Glace Bay, N. S.	29.55	750.6	29.59	751.6	21.2	— 6.0	87	NE	5	2.2	.....	.....	10n	.....	.....	0.30	7.3	Snowing	C. H. Rigby.
Montreal, Quebec	30.06	763.5	30.27	768.8	23.9	— 4.5	67	NW	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	C. H. McLeod, C. E.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nerson.
Norwood, Ontario	29.46	748.3	30.21	767.3	20.2	— 6.6	100	SE	1	0.4	.....	0	3s	.....	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A.
Parry Sound, Ontario	29.44	747.8	30.18	766.6	26.0	— 3.3	88	SE	5	2.2	.....	5k	5ks	.....	.....	0.03	0.8	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.25	768.3	22.4	— 5.3	65	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.53	750.0	30.26	768.6	30.0	— 1.1	89	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.59	751.6	30.27	768.8	28.2	— 2.1	98	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	M. Payne.
Quebec, Quebec	29.86	758.4	30.20	767.1	20.0	— 6.7	86	W	.....	.....	1	0	0	.....	.....	0.30	7.6	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	29.73	755.1	30.24	768.1	2.1	—16.6	62	Calm	0	0	.....	Haze	4s	.....	.....	0.50	12.7	Fair	W. H. McIntyre.
St. John, N. B.	29.79	756.7	29.97	761.2	14	—10.0	100	NW	16	7.2	.....	1k	0	.....	.....	0.08	2.0	Fair	G. Murdock, C. E.
Sangeen, Ontario	29.44	747.8	30.19	766.8	31.1	— 0.5	100	SW	7	3.1	.....	1k	0	.....	.....	Inap.	Inap.	Clear	Mrs. K. Stewart.
Stratford, Ontario	28.87	733.3	30.22	767.6	26.0	— 3.3	91	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
Sydney, C. B.	29.60	751.8	29.64	752.8	25.0	— 3.9	94	NE	9	4.0	.....	.....	10n	.....	.....	0.60	15.2	Snowing	T. C. Hill, C. E.
Toronto, Ontario	29.85	758.2	30.26	768.6	27.2	— 2.7	80	SW	1	0.4	.....	0	2s	.....	.....	Inap.	Inap.	Clear	Magnetic Observatory
Windsor, N. S.	29.72	754.9	29.82	757.4	19.5	— 6.9	92	NE	13	5.8	.....	.....	10n	.....	.....	0.62	15.7	Snowing	Prof. John E. Oram, M. A.
Woodstock, Ontario	29.13	739.9	30.25	768.3	29.1	— 1.6	94	W	.....	.....	0	0	0	.....	.....	0	0	Clear	Professor Wolverton.
Yarmouth, N. S.	29.89	759.2	29.96	761.0	24.0	— 4.4	92	N	16	7.2	.....	.....	10s	.....	.....	0.60	15.2	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.04	763.0	20	— 6.7	100	E	.....	.....	.....	.....	10n	.....	.....	Blank	Blank	.....	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.57	751.1	28.0	— 5.0	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.09	764.2	30.33	770.4	32	0.0	79	NW	12	5.4	.....	2k	2s	NW	NW	0	0	Fair	
Alpena, Michigan	29.49	749.0	30.17	766.3	30	— 1.1	89	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.26	742.9	30.47	773.9	36	2.2	53	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	30.46	773.4	30.47	773.9	30	— 1.1	78	NW	6	2.7	.....	Haze	0	Calm	.....	0.19	4.8	Clear.	
Augusta, Georgia	30.34	770.6	30.55	776.0	36	2.2	80	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Baltimore, Maryland	30.44	773.2	30.49	774.4	32	0.0	79	NW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Barnegat, New Jersey	30.42	772.7	30.45	773.4	32	0.0	89	W	11	4.9	.....	0	0	.....	.....	0.54	13.7	Clear	
Bismarck, Dakota	27.73	704.3	29.58	751.3	13	—10.6	81	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.65	727.7	29.99	761.7	48	8.9	85	SW	8	3.6	.....	5k	Fog	S	SW	0	0	Light fog	
Boise City, Idaho	26.96	684.8	29.92	760.0	26	— 3.3	88	NW	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Boston, Massachusetts	30.08	764.0	30.24	768.1	28	— 2.2	77	W	5	2.2	.....	0	0	.....	.....	0.04	1.0	Clear.	
Brackettville, Texas	28.90	734.0	29.99	761.7	43	6.1	92	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.61	726.7	29.63	752.6	26	— 3.3	75	SE	28	12.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.09	764.3	30.14	765.5	56	13.3	94	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Buffalo, New York	29.52	749.8	30.26	768.6	31	— 0.6	79	SW	4	1.8	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.00	762.0	30.31	769.9	27	— 2.8	76	N	5	2.2	.....	5ck	0	NW	.....	0.02	0.5	Fair	
Cairo, Illinois	29.93	760.2	30.34	770.6	43	6.1	59	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Campo, California	27.38	695.4	29.95	760.7	39	3.9	82	W	4	1.8	.....	10k	0	W	.....	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.52	775.2	30.53	775.4	44	6.7	60	NE	15	6.7	.....	Haze	0	.....	.....	0.15	3.8	Clear	
Cape Henry, Virginia	30.51	774.9	30.53	775.4	41	5.0	65	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.50	774.7	30.52	775.2	44	6.7	84	N	10	4.5	.....	0	0	.....	.....	0.04	1.0	Clear.	
Cape May, New Jersey	30.44	773.2	30.48	774.2	37	2.8	62	W	12	5.4	.....	0	0	.....	.....	0.18	4.6	Clear.	
Castroville, Texas	29.32	744.7	30.06	763.5	41	5.0	91	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cedar Keys, Florida	30.39	771.9	30.42	772.7	45	7.2	61	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.41	772.4	30.47	773.9	44	6.7	68	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Charlotte, North Carolina	29.72	754.9	30.48	774.2	37	2.8	61	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Chattanooga, Tennessee	29.64	752.8	30.50	774.7	32	0.0	89	NE	1	0.4	.....	2cs	Fog	Calm	Calm	0	0	Dense fog	
Cheyenne, Wyoming	23.58	698.9	29.72	754.9	31	— 0.6	48	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.47	748.5	30.19	766.8	37	2.8	63	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.74	755.4	30.43	772.9	41	5.0	57	SE	3	1.3	.....	Haze	4s	Calm	Calm	0	0	Fair	
Cleveland, Ohio	29.56	750.8	30.32	770.1	33	0.6	79	S	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear.	
Coleman City, Texas	28.26	717.8	29.98	761.5	40	4.4	73	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Columbus, Ohio	29.51	749.5	30.39	771.9	38	3.3	54	S	6	2.7	.....	0	Fog	.....	Calm	0	0	Clear.	
Concho, Texas	28.09	713.5	29.80	756.9	44	6.7	76	S	.....	.....	2	0	5s	.....	Calm	0	0	Fair	
Corsicana, Texas	29.68	753.9	30.10	766.1	47	8.3	70	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.41	747.0	30.06	763.5	38	3.3	72	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	24	— 4.4	87	SW	.....	.....	1	0	2s	.....	Calm	0.58	14.7	Fair	
Deadwood, Dakota	24.82	630.4	.....	.....	36	2.2	61	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.88	733.5	30.10	764.5	45	7.2	68	S	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Delaware Breakwater, Del.	30.46	773.7	30.48	774.2	34	1.1	70	NW	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear.	
Denison, Texas	29.28	743.7	30.08	764.0	47	8.3	70	S	18	8.0	.....	2k	2s	SW	SW	0	0	Fair	
Denver, Colorado	24.33	618.0	29.55	750.6	32	0.0	50	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	28.96	735.6	29.86	758.4	37	2.8	71	S	6	2.7	.....	0	2s	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.56	750.8	30.27	768.8	31	— 0.6	79	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Dodge City, Kansas	27.09	688.1	29.39	746.5	32	0.0	40	S	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Dubuque, Iowa	29.33	745.0	30.05	763.3	32	0.0	59	SE	3	1.3	.....	5cs	2s;fg	Calm	Calm	0	0	Cloudy	
Duluth, Minnesota	29.32	744.7	30.03	762.7	23	— 5.0	86	NE	16	7.2	.....	.....	10s	.....	NE	0.20	5.1	Cloudy	
Eagle Pass, Texas	29.32	744.7	30.06	763.5	56	13.3	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.93	760.2	30.00	762.0	18	— 7.8	76	NW	17	7.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.55	750.6	30.30	769.6	33	0.6	79	SW	7	3.1	.....	0	0	.....	.....	0.04	1.0	Clear.	
Escanaba, Michigan	29.49	749.0	30.18	766.6	28	— 5.0	60	W	5	2.2	.....	2c	0	W	.....	0	0	Fair	
Florence, Arizona	28.44	722.4	30.04	763.0	37	2.8	81	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	17	— 8.3	67	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.50	698.5	29.41	747.0	12	—11.1	80	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Custer, Montana	26.46	772.1	.....	.....	13	—10.6	81	N	7	3.1	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Fort Davis, Texas	25.12	738.0	30.08	764.0	48	8.9	43	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.50	749.3	30.05	763.3	47	8.3	48	SE	16	7.2	.....	0	2s	.....	E	0	0	Fair	
Fort Grant, Arizona	25.14	638.5	29.94	760.5	39	3.9	38	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.99	761.7	47	8.3	62	S	14	6.3	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	26.87	682.5	.....	.....	12	—11.1	61	NW	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.73	704.3	29.68	753.9	43	6.1	83	S	15	6.7	.....	.....	9ks	.....	S	0	0	Clearing	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.86	758.4	41	5.0	57	SE	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	27.75	704.8	.....	.....	10	—12.2	79	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	36	2.2	53	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.90	759.4	36	2.2	61	.....	16	7.2	.....	0	2ks	.....	S	0	0	Fair	
Galveston, Texas	30.18	766.6	30.22	767.6	59	15.0	76	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
Grand Haven, Michigan	29.54	750.3	30.22	767.6	32	0.0	79	SW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.04	737.6	29.99	761.7	47	8.3	62	SE	16	7.2	.....	2c	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.38	746.2	30.19	766.8	37	2.8	63	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	30.16	766.1	30.19	766.8	56	13.3	87	S	8	3.6	.....	0	8s	.....	S	0	0	Fair	
Jacksboro, Texas	28.78	731.0	29.92	760.0	47	8.3	85	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.31	769.9	30.34	770.6	47	8.3	55	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.36	745.7	29.99	761.7	39	3.9	64	S	9	4.0	.....	0	1s	.....	Calm	0	0	Clear.	
Key West, Florida	30.22	767.6	30.25	768.3	67	19.4	64	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.53	775.4	30.55	776.0	43	6.1	59	NE	24	10.7	.....	0	Haze	.....	Calm	0	0	Clear.	
Knoxville, Tennessee	29.43	747.5	30.51	774.9	30	— 1.1	89	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
La Crosse, Wisconsin	29.22	742.2	29.98	761.5	32	0.0	69	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	22	— 5.6	72	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.64	752.8	29.99	761.7	60	15.6	71	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	28.98	736.1	29.82	757.4	42	5.6	58	SE	12	5.4	.....	7cs	0	W	.....	0	0	Fair	
Lewiston, Idaho	.....	.....	.....	.....	27	— 2.8	80	W	2	0.9	.....	10k	0	Calm	.....	0.05	1.3	Cloudy	
Little Rock, Arkansas	29.92	760.0	30.29	769.4	44	6.7	60	S	4	1.8	.....	10c	0	W	.....	0	0	Cloudy	
Los Angeles, California	29.68	753.9	30.02	762.5	46.0	7.8	88	NE	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.77	756.1	30 36	771.1	42	5.6	58	S	5	2.2	.....	1c	0	Calm	.....	0	0	Clear	
Lynchburg, Virginia	29.79	756.7	30.52	775.2	33	0.6	79	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Madison, Wisconsin	29.06	738.1	30.08	764.0	32	0.0	79	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.38	746.2	30.13	765.3	27	— 2.8	76	Calm	0	0	.....	0	5s	.....	W	0.03	0.8	Fair	
Mason, Texas	28.41	721.6	30.20	767.1	47	8.3	70	SE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Memphis, Tennessee	29.97	761.2	30.33	770.4	41	5.0	49	SE	8	3.6	.....	2cs	Sm'e	W	.....	0	0	Clear.	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.40	746.7	30.15	765.8	34	1.1	79	SE	5	2.2	.....	1cs	Haze	Calm	.....	0	0	Clear	
Mobile, Alabama	30.39	771.9	30.43	772.9	40	4.4	82	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Montgomery, Alabama	30.22	767.6	30.47	773.9	36	2.2	90	NW	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
Morgantown, West Virginia	29.30	744.2	30.33	770.4	40	4.4	56	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	28.48	696.4	29.84	757.9	3	—16.1	100	NW	60	26.8	.....	.....	Fog	.....	NW	0.10	2.5	Foggy	
Nashville, Tennessee	29.84	757.9	30.40	772.1	38	3.3	63	SE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.24	768.1	30.30	771.1	35	1.7	70	W	4	1.8	.....	0	2s	.....	W	0.07	1.8	Fair	
New London, Connecticut	30.26	768.6	30.31	769.9	30	— 1.1	68	W	5	2.2	.....	1k	0	W	.....	0.06	1.5	Clear	
New Orleans, Louisiana	30.31	769.9	30.37	771.4	54	12.2	61	E	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.27	768.8	30.32	770.1	31	— 0.6	69	SW	22	9.8	.....	0	0	.....	.....	0.06	1.5	Clear	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	30.21	767.3	30.40	772.1	31	— 0.6	68	W	8	3.6	.....	0	Haze	.....	Calm	0.05	1.3	Clear	
Norfolk, Virginia	30.46	773.7	30.52	775.2	40	4.4	65	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
North Platte, Nebraska	26.02	675.[illegible]	29.19	741.4	30	— 1.1	47	S	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Olympia, Washington Ter.	29.86	758.4	29.90	759.4	29.0	— 1.7	94	S	2	0.9	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Omaha, Nebraska	28.60	726.4	29.66	753.4	38	3.3	72	SE	17	7.6	.....	2cs	0	Calm	.....	0	0	Clear	
Oswego, New York	29.98	761.5	30.32	770.1	29	— 1.7	78	S	4	1.8	.....	0	2s	.....	W	0.20	5.1	Fair	
Pembina, Dakota	28.94	735.1	29.81	757.2	20	— 6.7	100	E	8	3.6	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Pensacola, Florida	30.41	772.4	30.45	773.4	46	7.8	69	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.38	771.6	30.43	772.9	32	0.0	79	SW	5	2.2	.....	0	Fog	....	Calm	0.04	1.0	Clear	
Phœnix, Arizona	28.76	730.5	30.62	777.7	40	4.4	65	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.27	438.6	29.48	748.8	0	—17.8	39	SW	58	25.9	.....	2cs	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.22	742.2	30.06	763.5	50	10.0	72	S	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	23.69	601.7	29.46	748.3	27	— 2.8	70	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.54	750.3	30.40	772.1	34	1.1	79	SW	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Port Huron, Michigan	29.54	750.3	30.25	768.3	29	— 1.7	78	SW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Portland, Maine	30.10	764.5	30.15	765.8	29	— 1.7	67	NW	7	3.1	.....	0	0	.....	W	Inap.	Inap.	Clear	
Portland, Oregon	29.89	759.2	29.96	761.0	33.5	0.8	89	S	9	4.0	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	47	8.3	62	NE	26	11.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Prescott, Arizona	24.62	625.3	29.98	761.5	35	1.7	80	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.29	769.4	30.31	769.9	55	12.8	62	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.78	756.4	30.16	766.1	33	0.6	70	NW	2	0.9	.....	0	0	.....	.....	0.11	2.8	Clear	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.63	752.6	30.28	769.1	28	— 2.2	77	SW	8	3.6	.....	5k	0	W	.....	0.02	0.5	Fair	
Roseburg, Oregon	29.50	749.3	30.10	764.5	31	— 0.6	89	SW	4	1.8	.....	.....	10n	.....	Calm	0.49	12.4	Light snow	
Sacramento, California	30.07	763.8	30.15	765.8	37	2.8	63	NW	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
St. Louis, Missouri	29.58	751.3	30.17	766.3	38	3.3	45	S	13	5.8	.....	2c	0	S	.....	0	0	Fair	
St. Paul, Minnesota	28.99	736.3	29.84	757.9	30	— 1.1	79	SE	24	10.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Salt Lake City, Utah	25.82	643.1	29.65	753.1	28	— 2.2	66	NW	14	6.3	.....	.....	10s	.....	Calm	Inap	Inap.	Threatening	
San Antonio, Texas	29.48	748.8	30.09	764.3	44	6.7	92	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.00	762.0	30.08	764.0	52	11.1	73	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandusky, Ohio	29.63	752.6	30.33	770.4	36	2.2	71	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.38	771.6	30.42	772.7	34	1.1	61	W	18	8.0	.....	0	0	.....	.....	0.11	2.8	Clear	
San Francisco, California	30.10	764.5	30.17	766.3	49	4.4	52	N	13	5.8	.....	0	1ks	.....	N	0.14	3.6	Clear	
Santa Fé, New Mexico	23.69	586.5	29.63	752.6	10	—12.2	36	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.42	772.7	30.52	775.2	41	5.0	65	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.03	762.7	30.26	768.6	43	6.1	75	S	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.49	774.4	30.53	775.4	38	3.3	63	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.24	641.1	29.31	744.5	54	1.1	52	NE	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Springfield, Illinois	29.49	749.0	30.19	766.8	37	2.8	63	S	12	5.4	.....	1c	0	W	.....	0	0	Clear	
Springfield, Massachusetts	30.20	767.1	30.33	770.4	34	1.1	70	SW	3	1.3	.....	0	2ks	.....	NW	.02	0.5	Fair	
Stockton, Texas	26.92	683.8	29.92	760.0	39	3.9	25	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.18	766.6	30.23	767.8	30	— 1.1	68	W	9	4.0	.....	0	0	.....	.....	0.04	1.0	Clear	
Toledo, Ohio	29.57	751.1	30.29	769.4	33	0.6	70	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.49	698.2	30.04	763.0	40	4.4	40	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.57	751.1	30.08	764.0	27.5	— 2.5	88	NW	5	2.2	.....	0	2s	.....	Calm	0.06	1.5	Clear	
Uvalde, Texas	29.16	740.7	29.99	761.7	70	10.0	86	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.19	766.8	30.46	773.7	41	5.0	74	SE	10	4.5	.....	5c	0	W	.....	0	0	Fair	
Virginia City, Montana	24.72	627.9	29.20	741.7	15	— 9.4	82	Calm	0	0	.....	.....	10n	.....	Calm	0.12	3.0	Light snow	
Visalia, California	29.64	752.8	30.03	762.7	41	5.0	82	NW	12	5.4	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Washington, D. C.	30.36	771.1	30.48	774.2	33	0.6	70	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	26	— 3.3	75	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.45	773.4	30.51	775.7	39	3.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.46	646.7	29.82	757.4	17	— 8.3	67	SW	13	5.8	.....	0	1s	.....	SW	0.25	6.3	Clear	
Wood's Holl, Massachusetts	30.21	767.3	30.25	768.3	32	0.0	79	NW	20	8.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Yankton, Dakota	28.35	720.1	29.66	753.4	34	1.1	61	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.79	756.7	29.94	760.5	41	5.0	57	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	21.99	558.5	.....	.....	55.0	12.8	72	Calm	.....	.....	0	8k	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	82	Calm	0	0	.....	0	2s	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.99	761.7	30.07	763.8	77	25.0	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	78	25.6	86	E	.....	.....	2	.....	8ks	E	.....	1.040	26.42	Cloudy	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.43	747.5	29.98	761.5	77	25.0	79	N	.....	.....	2	.....	8ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.22	767.6	30.28	769.1	—29.0	—33.9	.....	E	8	3.6	.....	5k	5s	E	E	.....	.....	Snowing	J. Fortescue & W. Wood
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.8 feet, or 344.8 meters; Bismarck, 1,704.8 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.8 ft., or 2,657 2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,890 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.80 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.9 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.44‡	773.2‡	.....	.....	50	10.0	79	N	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.19‡	766.8‡	.....	.....	31	— 0.6	79	NW	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡	.....	.....	46.5	8.1	58	N	.....	.....	3	.....	9k	.....	W	0.34	8.6	.....	.....	Cloudy.....	
Adams, Mazatlan, Mexico	30.11‡	764.8‡	.....	.....	62	16.7	80	ENE	.....	.....	1	.....	2	.....	NE	.....	.....	Smooth	S	Clear	
Colorado, New York, N. Y.	30.44‡	773.2‡	.....	.....	33	0.6	.....	W	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution, Aspinwall, Panama	29.98‡	761.5‡	.....	.....	77	25.0	82	NNE	.....	.....	3	.....	8	.....	NNE	.....	.....	Mod'ate	NNE	Cloudy.....	
Enterprise. Villafranca, France	30.05‡	763.3‡	.....	.....	52	11.1	79	N	.....	.....	3	.....	10	.....	N	.....	.....	Long	.....	Cloudy.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.54‡	775.7‡	.....	.....	38	3.3	63	SW	4.8	2.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.15‡	765.8‡	.....	.....	39	3.9	82	W	1.2	0.5	.....	.....	2	.....	SE	0	0	.....	.....	Clear	
Kearsarge, Shephard's Harbor, Chiriqui	30.02‡	762.5‡	.....	.....	75	23.9	90	NW	.....	.....	1–4	.....	10	.....	WSW	.....	.....	Smooth	.....	Cloudy.....	
Lackawana, Navy Yard, Mare I'd., Cal.	30.14‡	765.5‡	.....	.....	42	5.6	74	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.	
Marion, S. 37° 08', W. 53° 40'	29.84‡	757.9‡	.....	.....	61	16.1	77	SW	.....	.....	6	.....	0	.....	.....	Heavy	Heavy	Rough	S; W	Squally.....	
Michigan, Erie, Pa.	30.28‡	769.1‡	.....	.....	32	0.0	79	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China	30.19‡	766.8‡	.....	.....	42	5.6	74	NE	.....	.....	2–3	.....	10	.....	NE	.....	.....	.....	.....	Rainy	
New Hampshire, Port Royal, S. C.	30.40‡	772.1‡	.....	.....	49	9 4	63	NE	10	4.5	.....	.....	1	.....	NE	0	0	.....	.....	Clear	
Nipsic. St. Thomas, W. I.	30.10‡	764.5‡	.....	.....	75	23.9	72	ENE	.....	.....	3	.....	2	.....	ENE	.....	.....	.....	.....	D. clouds.....	
Onward, Callao, Peru †	29.93‡	760.2‡	.....	.....	70	21.1	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Cloudy.....	
Palos, Tientsin, China	30.45‡	773.4‡	.....	.....	28	— 2.2	100	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Pensacola, S. 8° 07', W. 80° 04'	29.92‡	760.0‡	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Off Norfolk, Va.	30.51‡	774.9‡	.....	.....	43	6.1	67	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Quinnebaug, Leghorn, Italy	30.04‡	763.0‡	.....	.....	55	12 8	68	SW	.....	.....	1	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Richmond, Hong-Kong, China	29.97‡	761.2‡	.....	.....	60	15 6	100	ENE	.....	.....	3–4	.....	10	.....	.....	0.56	14.2	Smooth	.....	Rainy	
Rio Bravo, Brownsville, Texas †	30.32‡	770.1‡	.....	.....	56	13.3	94	SSE	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee. Annapolis, Md	30.49‡	774.4‡	.....	.....	35	1.7	80	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	30.01‡	762.2‡	.....	.....	67	19.4	74	SW	.....	.....	3	.....	0	.....	.....	.....	.....	Mod'ate	SW	Clear.	
St. Louis, League Island, Pa.	30.37‡	771.4‡	.....	.....	32	0.0	79	SW	6	2.7	.....	.....	0.	.....	.....	0.2	5.	.....	.....	Clear	
Swatara, Gibraltar, Mediterranean.	29.92‡	760.0‡	.....	.....	62	16.7	88	SW	.....	.....	4	.....	8	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Tennessee, Norfolk, Va.	30.50‡	774.7‡	.....	.....	59	15.0	??	W	.....	.....	5	.....	.....	.....	.....	0	0	.....	.....	Hazy.....	
Trenton. Toulon, France	29.96‡	761.0‡	.....	.....	54	12.2	87	S	.....	.....	3	.....	10	.....	.....	4 h'rs	4 h'rs	.....	.....	Cloudy.....	
Tuscarora, San Jose, Guatemala	30.01‡	762.2‡	.....	.....	73	22.8	90	NW	.....	.....	1	.....	0	.....	.....	0	0	Long	S	Clear.	
Wabash, Boston, Mass.	30.24‡	768.1‡	.....	.....	29	— 1.7	67	NW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.	
Wachusett, Montevideo, Uruguay. †	30.51‡	774.9‡	.....	.....	67	19.4	94	SW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	SW	Fair.....	
Wyoming, Naples, Italy	30.05‡	763.3‡	.....	.....	56	13.3	63	W	.....	.....	2–3	.....	5	.....	W	.....	.....	Smooth	W	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 45° 45′, W. 48° 30′...†	30.01‡	762.2‡	25	—3.9		SSE			2		10		SSW			Mod'ate	SSW	Cloudy	
S. S. Moravian, J. Graham,																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 58° 17′, W. 25° 11′	28.30‡	718.8‡				ENE			6		5		NE			Heavy	W	Hazy	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent St. George's Channel, Eng	28.58‡	724.6‡	48	8 9	85	SE			8		9		SE	Heavy				Stormy	
S. S. Ohio, Henry Morrison.																			Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 23° 09′, W. 107° 54′...†	30.22‡	767.6‡				SW			2		0					Smooth	WNW	Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson,																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 49° 14′, W. 16° 02′	28.77‡	730.7‡	49.5	9 7	68	NW			5		8		NW	½ h'r		Rough	WNW	Hailing	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	29.98‡	761.5‡	61	16.1	94	E			4		10		E					Light rain	D. A. Joyce.
S. S. Gaelic, W. H. Kidley,																			J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The originals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexandor N. 32° 42′, W. 117° 16′	30.08‡	764.0‡	56	13.3		W			3		10		W	0	0			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 13° 38', W. 89° 50'	30.03‡	762.7‡	81	27.2	96	NE			3		2		NE	0	0	Small	E	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Tacoma Harbor, Washington Ty.	29.88‡	758.9‡	38	3.3		Calm			0		10							Snowing	E. Polemann.
S. S. City of Panama, M. Connolly, N. 13° 50', W. 94° 28'†	29.98‡	761.5‡	79	26.1		NNW			3		0			0	0	Long Heavy	NNW	Hazy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			
S. S. Colima, R. R. Searle																			E. LeSack.
S. S. Dakota, D. E. Griffiths																			
S. S. Granada, J. M. Cavarly																			D. E. Griffiths.
S. S. Z alandia, R. C. Ghest																			

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			J. Farmer & W. Apetan.
S. S. Nederland, S. Stokes																			

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Adaie Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S 42° 20', E. 106° 40'	29.78‡	756.4‡	59	15.0		SSW			5		2		SW			Moderate;	WSW	Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin. N 39° 00 W. 72° 50'†	30.49‡	774.4‡	45	7.2		NW			4		0			0	0	Rough	NW	Clear	
Iron Cross, W. Randall, N. 28° 14', W. 19° 44'	30.13‡	765.3‡	66	18.9	79	WSW			4–5		9		WSW	0	0	Long	WNW	D. clouds	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

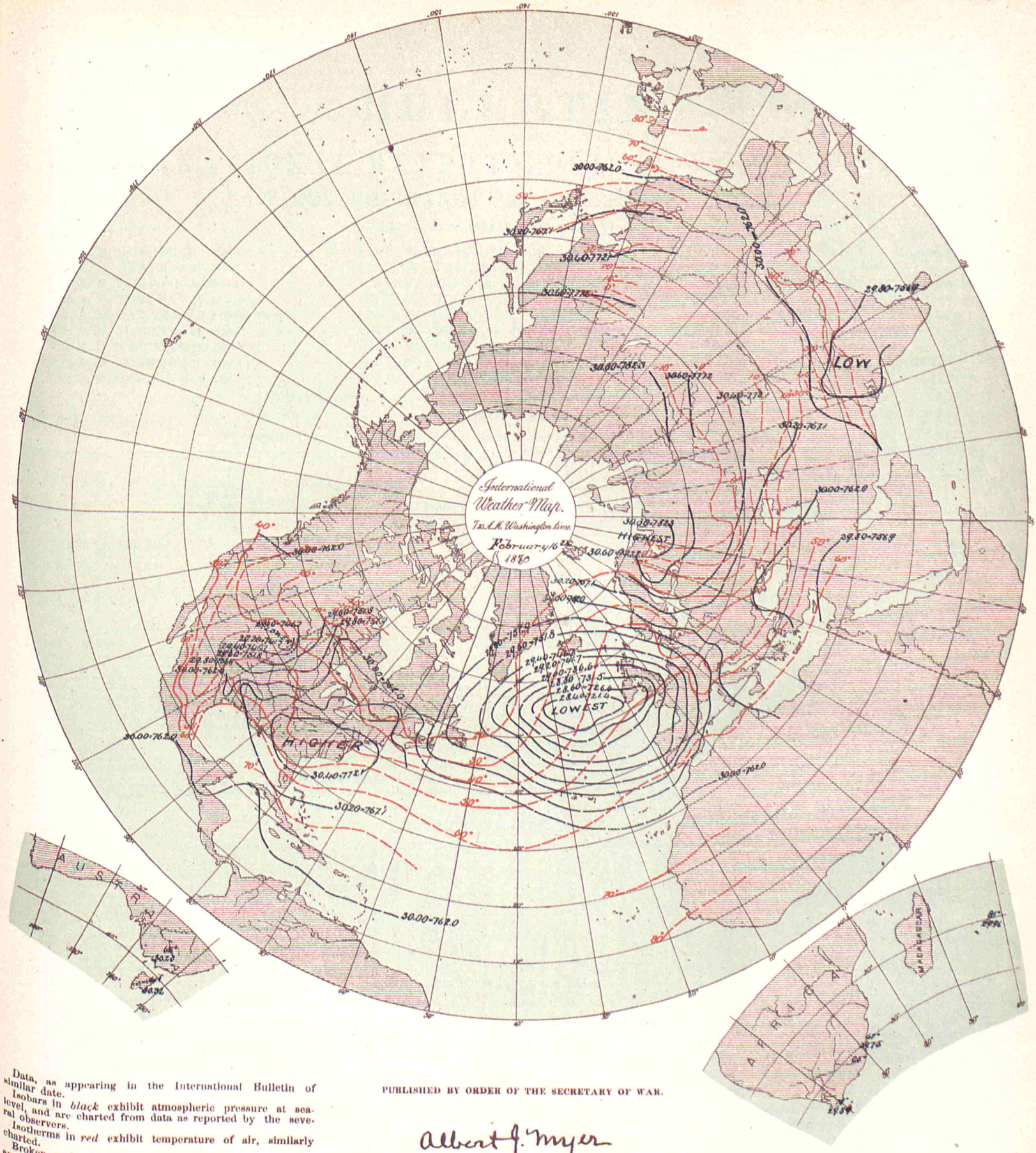
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, tracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrowes, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 17, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.13	765.3				SW			5		8			0.059	1.5	Very cloudy	
Nemours			30.07	763.7	61.3	16.3	81	NNW			5		8			0	0	Very cloudy	Kesxuche.
Algiers			30.00	762.0	66 9	19.4	60	S			1		0			0	0	Clear	Touriliere.
La Calle			30.02	762.4	68.0	20.0	55	NNE			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.00	762.0															Gau.
Saida			30.09	764.2															Herbin.
Tebessa			30.13	765.3	64.8	18.2	29	W			6		7			0	0	Very cloudy	Watrin.
Geriville																			Brugnlaux.
Laghouat			30.16	766.1	65.5	18.6	5	SSW			6		0			0	0	Clear	Bertrand.
Biskra			30.09	764.2	64.0	17.8	40	E			2		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.27	743.5	29.83	757.7	43.0	6.1	75	W			3		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.12	739.7	29.92	759.9	34.9	1.6	82	SE	5.6	2.5			5			0	0		Dr. Wierzbicki.
Eperies	29.06	738.2	29.93	761.6	31.6	— 0.2	81	S			1		10n			0	0		Julius Mikolik.
Gratz	28.55	725.1	29.84	757.9	35.6	2.0	88	S			1		10			0	0		Andreas Rospini.
Hermannstadt	28.51	724.2	29.99	761.8	37.4	3.0	78	SSE			4		1			0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.32	719.4	29.71	754.5	33.8	1.0	87	ENE			2		9			0	0		The Staff.
Lemberg	29.05	737.8	30.12	765.0	17.6	— 8.0	94	SE			2		10			0	0		Dr. T. Stanecki.
Pola	29.84	758.0	29.96	761.0	49.5	9.7	83	SW			1		10			0	0		I.R. Hydrographic Office.
Szathmar	29.55	750.6	30.04	763.0	32.7	0.4	92	NE			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	29.65	753.1	29.94	760 5	33.6	0.9	94	S			3		10			0	0		Karl Stancel.
Trieste	29.89	759.3	30.00	761.9	42.4	5.8	93	Calm			0		10			0	0	Cloudy	P. Busin.
Vienna	29.10	739.1	29.84	758.0	20.5	— 1.4	100	SE			3		10			0	0		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.07	738.4	29.26	743.3	53.4	11.9	74	SSW			4		10	SSW		0.063	1.6		Royal Observatory.
Furnes	29.24	742.6	29.20	743.2	45.3	7.4	86	WSW			4		9			0.051	1.3		M. E. de Cae.
Maeseyck	29.22	742.1	29.34	745.3	53.1	11.7	81	S			2		10			0.354	9.0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D C as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	28.75	730.2	28.85	732.8	39.8	4.3		E	3	1.3			10			0.145	3.69	Overcast	W. Boswell.
Ardrossan	28.83	732.3	28.85	732.8	45	7.2		SSW			4		3					Blue sky	G.Carrick.
Armagh, (Observatory)	28.62	726.9	28.84	732.5	47.0	8.3		SSW	18	8.0			2					Squally	S. Call.
Bidston (Liverpool Obs)			28.98	736.1	48.8	9.3		SW	22	9.8			3					Blue sky	John Hartnup.
Bolton (Sharples)	28.48	723.4	28.99	736.3	45.7	7.6		SW	12	5.4			7					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	28.59	726.2	28.98	736.1	45.9	7.7		W			1		7			0.66	16.5	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	73	22.8		NE			1		9					Raining	Pyt.G.Surgener, A.H.C
Cambridge (Observatory)	29.06	738.1	29.16	740.7	49.5	9.7		SW			2		7					D. clouds	H. Todd.
Cardington			28.96	735.6	47.4	8.6		NW			4		5					D. clouds	John McLaren.
Chatham (School M. E.)	28.93	734.8	29.05	737.9	50.1	10.1		SW			1		7k					D. clouds	Lance Corp'l Hocker, R. E.
Dor ghedee	28.83	732.3	28.87	733.3	48	8.9		SW			4		3					D clouds	J. Mac Gowan.
Dover	29.16	740.7	29.19	741.4	46	7.8		W			5		3					¼ clouded	J. Costello.
Falmouth (Observatory)	28.89	733.8	29.11	739.4	49.1	9.5		SSW			5		2					D. clouds	The Staff.
Fort Napier, Natal	27.48	698.0	29.70	754.4	67.0	19.4		SE			1		10					Raining	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.65	753.1	29.87	758.7	86	30.0		W			1		3k						
Galway (Queen's College)			28.69	728.7	49	9.4					5		6					D. clouds	M J. O'Donaghue.
Gibraltar, Mediterranean.§	29.85	758.2	29.90	759.4	53.2	12.8		W			3		10					Raining	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	28.65	727.7	28.86	733.0	47.8	8.8		SW			4		5					D. clouds	D. G. Maclean.
Great Yarmouth	29.12	739.6	29.13	739.9	42	5.6		WSW			4		4					D. clouds	G. T. Watson.
Greenwich (Royal Obs'y)	29.02	737.1	29.19	741.4	47.1	8.4		WSW					7					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.01	736.8	29.21	742.7	47.5	8.6		SSW			3		5					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.28	743.7	29.40	746.7	51	10.6		SW			7	3c;ck				0.03	0.8	Very stormy	M. P. Moyle.
Holyhead	28.80	731.5	28.86	733.0	47	8.3		SSW			4		0					Blue sky	John Tilston.
Jersey	28.99	736.3	29.28	743.7	45.8	7.7		SW			4	7c						Gloomy	J. Fisher.
Kew (Observatory)	29.17	740.9	29.21	741.9	47.0	8.3		SW	15	6.7			8					Threatening	The Met'g'l Office.
Leicester (Museum)	28.83	732.3	29.08	738.6	46.5	8.1		SW			2		5					D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	62	16.7		SW				1c						Blue sky	A. King.
Nairn	28.72	729.5	28.81	731.8	46	7.8		E			2		5					½ clouded	W. D. Penny.
Nassau, Bahamas			30.24	768.1	70.2	21.2		NE					4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	28.90	734.0	29.10	739.1	47.0	8.3		SW			3	3c		WSW		0.542	13.77	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.56	725.4	29.07	738.4	47.5	8.6		SW			3		8					D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	28.93	734.8	29.19	741.4	48	8.9		SSW			3		5					D. clouds	The Staff, for E. J. Stone, Esq.
Plymouth	29.05	737.9	29.12	739.6	49.0	9.4		S			3		8					D. clouds	John Merrifield.
*Roche's Point	28.78	731.0	28.86	733.0	48	8.9		SSW			6		10					Raining	Wm. Kennedy.
St. Ann's Head	28.86	733.0	29.01	736.8	46	7.8		SSW			5		7					Squally	John C. Walker.
Sandwick Manse, Orkneys			28.87	733.3	36.9	2.7		ESE	24	10.7			10					Raining	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.94	760.5	30.01	762.2	44.0	6.7		N			1		10					Gloomy	Serg't W. H. Lyne.
Sheffield	28.77	730.7	29.04	737.6	47.2	8.4		SW			1		4			0.07	1.8	D. clouds	W. F. Cooper.
Silloth Rectory	28.88	733.5	28.92	734.6	47.1	8.4	74	SW			3		2			0.104	2.64	D. clouds	Rev. F. Redford, A.M
Stonyhurst (Observatory)			28.99	736.3	46.0	7.8		SSW	18	8.0			7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	28.97	735.8	29.18	741.1	46.9	8.3		W			2-3		6					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.06	738.1	29.12	739.6	53	11.7		S			7		7					D. clouds	W. Newcombe.
Valencia (Observatory)	28.67	728.2	28.70	729.0	46.3	7.9		SSE	42	18.8			10					Squally	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.93	760.2	29.97	761.2	75.8	24.3	49	S	37.8	16.9		2c	6k			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.																			Robert Burnet.
Constable, Cape Colony	26.72	678.7			64	17.8		SW					3						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			30.32	770.1	61.0	16.1		SE			3		0			0	0	Star light	Andrew Gibb.
Las Palmas, Grand Canary							77												Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			28.83	733.8	46.8	8.2		SW			2		6k			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.79	756.7	29.98	761.4	80.7	27.1	71	E	25.0	11.2		7	3	N	E	0.17	4.3	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.12	765.0	30.21	767.3	65.2	18.4	71	ESE	6	2.7			0			0	0	Very fine	J. Youngehause.
Monach Lt-house, Hebrides			28.70	729.0	47	8.3		S			6		10			0.6	15.		
North Unst, Shetland Is			29.12	739.6				SE			8	10	10			Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.

	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 34° 59′ W. 25° 38′			30.14‡	765.5‡	75	23.9		N			3		2					Blue sky	Capt. Thos. Young.
City of Cashmere, S. 12° 05′, W. 35° 50′			29.98‡	761.5‡	80.4	26.9		ENE			4		9cs;ks		NW;N			Overcast	Capt. W. M. Grieve.
Bute Fylde, N. 35° 20′, W. 71° 50′			30.05	778.5	58	14.4		E			4		10			4	N	Overcast	Capt. L. C. Dart.
S. S. German, Capetown, Cape Good Hope			29.89‡	759 2‡	67	19.4		SE			8		8					Squally	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 28° 53′, E. 45° 20′			30.04	763.0‡	81.1	27.3		NE			5		3					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. O M. Dobson.
S. S Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding
Barque Fedalma																			Capt. H. L. Fox.
H. M. S. Alert																			Capt.J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.
S. S. Richmond																			Capt. W. H. Stuart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the fast 24 hours. Inches.	Rain-fall or melted snow in the fast 24 hours. Millimeters.	Weather.	Observer.
San José	26.27	667.2	29.99	761.7	60.8	16.0	81	NE	.....	.....	2	.....	2d	.....	NE	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.64	752.8	29.69	754.0	32.7	0.4	83	SE	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29.31	744.5	29.33	745.0	33.8	1.0	94	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	.....
Godthaab (Greenland)	29.66	753.4	29.71	754.5	23.0	— 5.0	90	NE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	29.50	749.2	29.54	750.3	35.2	1.8	85	NE	.....	.....	8	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn (Faröe)	29.08	737.3	29.06	738.2	39.9	4.4	89	ESE	.....	.....	8	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.26	743.2	29.37	746.0	31.8	— 0.1	92	ESE	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.80	731.5	29.35	745.5	50.9	10.5	86	SW	.....	.....	1	.....	10	W	SW	0 28	7.	Covered	Collignon, Director.
Amiens, Normal School	29.18	741.2	29.29	744.0	47.5	8.6	92	SW	.....	.....	1	.....	8	.....	NE	0.110	2.8	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.04	737.6	29.30	744.2	42.6	5.9	98	W	.....	.....	3	.....	10n	.....	W	0.063	1.6	Raining	Klein, Commandant.
Avignon, Normal School	29.58	751.2	29.65	753.2	34.7	1.5	66	SE	.....	.....	4	.....	5	.....	S	0.024	0.6	Cloudy	Giraud, Director.
Bar-sur-Seine	28.89	733.8	29.44	747.8	50.9	10.5	84	SSW	.....	.....	1	.....	10	.....	SW	0.091	2.3	Light rain	C. Saillard, Director.
Beauvais, Normal School	29.03	737.3	29.20	744 0	47.3	8.5	87	W	.....	.....	2	.....	10	.....	W	0.20	5	Covered	Frère Eugene Marie.
Besançon, Normal School	28.62	727.0	29.40	749.0	58.6	14.8	87	SW	.....	.....	4	.....	8	.....	SW	0	0	Very cloudy	A. Carré, Director.
Bordeaux	29.22	742.1	29.41	747.1	55.8	13.2	67	WSW	.....	.....	1	.....	8	.....	.....	0.157	4.00	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	28.69	728.8	29.61	752.1	56.1	13.4	66	S	.....	.....	3	.....	n	S	S	0.087	2.2	.....	Marlot, Director.
Bourges, Normal School	28.90	734.1	29.46	748.1	61.8	11	90	S	.....	.....	1	.....	10n	.....	S	0.31	8.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.04	737.5	29.28	743.7	62.5	11.4	83	SW	.....	.....	3	.....	1	.....	SW	0.492	12.50	.....	Ch. de Rermaree, Dir
Caen, Normal School	29.22	742.1	29.29	744.0	52.9	11.6	75	SSW	.....	.....	1	.....	10	.....	W	0.276	7.0	Covered	M. Bietrin, Director.
Carcassonne, N. School	29.07	738.4	29.47	748.6	62.6	17	61	E	.....	.....	1	.....	10	S	N	0.067	1.7	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.10	739.1	29.42	747.3	49.8	9.9	96	SSW	.....	.....	2	.....	10	NE	NE	0.	0	Covered	Jadot, Director
Chartres, Normal School	28.66	728.0	29.22	742.2	51.8	11	90	SW	.....	.....	3	.....	7	E	.....	0	0	.....	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.14	714.7	29.48	748.9	50.4	10.2	60	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Alluard, Director.
Commercy, Normal School	28.59	726.3	29.45	747.9	61.1	10.6	82	W	.....	.....	2	.....	10n	SW	SW	0.287	7.3	Light rain	Dr. Coullet, Director.
Commune de Gréasque*	28.66	727.9	29.80	756.9	55.2	12.9	65	SE	.....	.....	3	.....	10	.....	SE	0.134	3.4	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	28.83	732.2	29.58	751.2	61.2	16.2	47	S	.....	.....	3	.....	cn	.....	NW	0.024	0.6	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.22	742.2	29.43	747.6	61.1	10.6	80	WSW	.....	.....	1	.....	8	.....	WSW	0.543	13.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.02	737.2	29.33	746.0	48.2	9	92	W	.....	.....	3	.....	8	.....	W	0.244	6.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.65	727.8	29.40	751.8	56.3	13.5	77	S	.....	.....	4	.....	10cn	.....	NE	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.23	742.5	29.34	745.3	50.0	10.0	84	S	.....	.....	4	.....	8	.....	S	0.504	12.8	3/4 covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	28.91	734.4	29.52	749.8	58.6	14.8	48	SW	.....	.....	1	.....	n	.....	SW	0.016	0.4	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.44	747.7	29.71	754.5	57.4	14.1	82	E	.....	.....	4	.....	10	.....	SE	0.008	0.2	Covered	E. Stephan, Director.
Mirecourt, Normal School	28.39	721.1	29.41	747.1	55.8	13.2	66	SW	.....	.....	6	.....	5	.....	.....	0.20	5.	Fair	Barbier, Director.
Mont-Louis	24 43	620.5	29.74	755.5	40.1	4.5	75	SW	.....	.....	4	.....	10	.....	.....	0.047	1.2	.....	M. Cave, for Dr. Fines.
Nice	29.85	758.2	29.89	759.1	53.2	11.8	87	NW	.....	.....	1	.....	5	SW	SW	.....	.....	Light rain	Capt. Boissiere, Director.
Nismes, Normal School	29.41	747.1	29.61	752.1	57.7	14.3	74	S	.....	.....	4	.....	10	.....	S	0	0	Covered	M. Boyer, Director.
Perpignan	29.34	745.2	29.45	747.9	65.3	18.5	58	SW	24.2	10.8	.....	.....	3	W	SW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.09	560.1	.....	.....	25.7	— 3.5	.....	.....	.....	.....	.....	.....	10	.....	S	0.201	5.1	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.58	725.9	29.64	752.8	53.6	12	65	S	.....	.....	4	.....	10	S	S	0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	24.61	625.2	.....	.....	32.9	0.5	100	WSW	.....	.....	6	.....	Fog	.....	.....	0.157	4.0	Raining	Alluard, Director.
Rochefort, Naval Obs'y	29.42	747.3	29.45	748.1	53.1	11.7	81	SW	.....	.....	2	.....	10	SW	SW	0.08	2.	Covered	Lt E. Decante, Director
Rouen, Normal School	29.23	742.4	29.32	744.6	48.2	9.0	73	W	.....	.....	2	.....	5	S	NW	0.008	0.2	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.20	743.3	29.30	744.1	50.9	10.5	64	SW	.....	.....	3	.....	5	SW	SW	0.413	10.50	Cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.10	740.6	29.32	744.8	52.5	11.4	85	SSW	.....	.....	3	.....	10	.....	SW	0.213	5.4	Covered	J. Renou, Director.
Tarbes, Normal School	28.45	722.5	29.50	749.4	57.2	14	78	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	28.85	732.8	29.56	75 .9	55.4	13.0	79	N	.....	.....	1	.....	10	.....	.....	0.106	2.7	Covered	B. Baillaud, Dir.
Tours	29.19	741.4	29 39	746.4	61.8	11.0	75	WSW	.....	.....	2	.....	10	.....	WSW	0.287	7.3	Covered	M. de Tastes.
Versailles, Observatory	28.82	732.0	29.31	744.5	51.4	10.8	73	SW	.....	.....	4	.....	.....	.....	.....	0.163	4.15	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	28.79	731.3	29.49	749.0	57.2	14	90	SE	.....	.....	6	.....	10	.....	SE	0.268	6.8	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.6	30.05	763.3	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.02	26.	.....	L'Abbé Marchesi
Paris, Montsouris Obs'y	29.03	737.4	.....	.....	52.2	11.2	84	S	.....	.....	4	.....	10	.....	SW	0.134	3.4	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.20	767.0	30.22	767.6	42.6	5.9	85	NE	12.1	5.4	.....	.....	10	.....	.....	0.142	3.6	Covered	Marc Dechevrens, J.S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.76	730.6	29.61	752.2	38.1	3.4	70	SE			6		10ks			0.004	0.1	Light rain	Prof. Dr. Hoh.
Berlin	29.48	748.8	29.66	753.3	41.4	5.2	66	SE			2		8			0	0		Prof. Dr. Arndt.
Breslau	29.32	744.7	29.55	758.1	33.1	0.6	88	ESE			4		2			0	0		Royal University Obs'y
Carlsruhe	29.08	738.5	29.50	749.3	46.8	8.2	83	SW			0		10	SW		0.122	3.1	Raining	Albert Senz.
Cassel	28.89	733.8	29.49	749.0	42.4	5.8	65	SW			2		8	W		0.057	1.45		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.25	743.0	29.63	752.5	41.0	5.0	59	SE			1		10			0.020	0.5		Physical Society.
Friedrichshafen	28.14	714.8	29.58	751.3	45.5	7.5	75	SSW			1		8	SSW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.40	746.8	29.47	748.6	36.7	2.6	84	SE			5		10			0.146	3.7		Dr. Reinhold Kleeman.
Kiel	29.43	747.6	29.45	748 0	36.9	2.7	74	SE			6		10			0.202	5.12		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.08	763.9	30.17	766.2	19.4	— 7.0	87	SE			6		10			0	0		Prof. E. Luther.
Köslin			29.86	758.4	28.6	— 1.9		SE			4		4			0	0		H. Müller.
Leipsic Observatory	29.16	740.7	29.59	751.6	39.7	4.3	68	SE			2		10	SW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.37	746.1	29.60	751.8	40.3	4.6	64	SE			5		10cks	SE				Raining	Dr. Assmann.
Memel	30.18	766.5	30.23	767.7	17.8	— 7.0	74	ESE			4		10n						Reinbrecht & Issermann
Munich (München)	27.78	705.6	29.63	752.7	39.4	4.1	68	E			4		10	SW		0	0		Dr. C. Lang.
Neufahrwasser	30.06	763.5	30.08	763.9	24.8	— 4.0	77	SE			3		7			0	0		A. Lothes.
Neustadt (Palatinate)	28.96	735.6	29.48	748.7	47.8	8.8	72	Calm			0		10			0.091	2.3		Reallehrer Dicknether.
Posen	29.58	751.2	29.88	758.9	31.6	— 0.2	78	SE			8		4			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	28.97	735 7	29.52	749.8	44.8	7.1	87	NE			1		10	SW		0.096	2.44	Raining	Imp. University Observatory.
Stuttgart	28.60	726.4	29.49	749.0	49.1	9.5	61	NE			1		10			0.016	0.4		Prof. Dr. Schoder.
Thorn	29.87	758.6	30.06	763.4	25.7	— 3.5	86	SE			5		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.12	714.3	29.68	753.9	38.7	3.7	63		2.2	1.0			10		W	0	0		Reallehrer J. Hopfner.
Wustrow	29.60	751.8	29.62	752.4	34.5	1.4	96	SE			6		10s			0.244	6.2		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.65	753.0	30.04	763.0	57.0	13.9		SW			1.0		5					¼ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Durriachee	29.92	760.1	29.98	761.4	73.8	23.2	63	NW	13	5.8			6		NW	0.06	1.5	D. clouds	
Beesa	29.42	747.2	29.91	759.8	60.1	15.6	11	W	18.6	8.3			0			0	0	Misty	
Kombay	29.91	759.6	29.95	760.6	69.5	20.8	49	NNW	17	7.6			1	NNW		0.01	0.3	D. clouds	
Poona (Yarrowda)	28.00	711.3	29.90	759.4	68.0	20.0	39	WNW	21	9.4			0			0	0	Blue sky	
Belgaum	27.31	693.7	29.85	758.1	75.6	24.2	33	WSW	8	3.6			1	S		0	0	D. clouds	
Lahore	28.91	734.3	29.70	754.3	49.2	9.6	82	NE	3.6	1.6			10			0.44	11.2	Overcast	
Roorkee	28.85	7 2.8	29.81	757.2	47.8	8.8	81	NE	6.0	2.7			9			1.98	50.3		
Agra	29.17	741.0	29.76	755.8	62.8	17.1	20	E	8.4	3.8						0	0		
Nagpur	28.73	729.8	29.79	756.6	74.5	23.6	35	W	5.7	2.6			0			0	0	Blue sky	
Jubbulpore	28.35	720.1	29.74	755.3	69.6	20.9	50	NW	2.1	0.9			3			0	0	D. clouds	
Lucknow	29.32	744.8	29.72	754.8	59.3	15.2	91	ESE	3.7	1.6			10			0.33	8.4	Thunder-storm	
Allahabad	29.41	747.0	29.73	755.1	65.9	18.8	92	Calm	5.7	2.6			5			0.12	3.0	D. clouds	
Patna	29.67	753.6	29.86	758.5	60.0	15.6	95	E	1.1	0.5			8	E	E	0.02	0.5	D. clouds	
Hazaribagh	27.74	704.6	29.81	757.2	61.6	16.4	91	SE	8.2	3.7			10			0	0	Overcast	
Cuttack	29.72	754.8	29.80	756.9	79.2	26.2	72	S	3.1	1.4			10			0.12	3.0	Raining	
Calcutta (Alipore)	29.81	757.2	29.83	757.7	70.4	21.3	90	ENE	6.0	2.7			10					Drizzling	
Goalpara	29.47	748.5	29.87	758.7	65.3	18.5	77	ESE	5.4	2.4			1		SW	0.16	4.1	D. clouds	
Chittagong	29.76	756.0	29.86	758.3	74.8	23.8	72	Calm	3.1	1.4			10			0	0	Gloomy	
Sibsagar	29.59	751.6	29.94	760.5	62.7	17.1	89	SE	2.7	1.2			10	W	W	0.12	3.0	Gloomy	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.54	750.2	29.96	760.9	40.6	4.8	91	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.41	747.0	29.95	760.7	38.7	3.7	98	W	.....	.....	1	.....	10	.....	.....	0.346	8.8	.....	Prof. Schiaparelli.
Padua	29.84	757.8	29.95	760.7	40.8	4.9	89	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.2	29.97	761.1	40.6	4.8	86	E	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.72	754.9	29.92	759.9	51.8	11.0	87	NE	1.3	0.6	.....	.....	10	SE	.....	0.650	16.5	.....	Prof. G. M. Garibaldi.
Mondovi	28.00	711.1	29.95	760 8	41.0	5.0	76	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.88	758.9	29.93	760.2	50.9	10.5	64	NE	5.6	2.5	.....	.....	8	NW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.70	754.4	29.97	761.1	53.6	12.0	79	SE	.....	.....	2	.....	10	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	758.0	29.93	760 3	55.9	13.3	72	S	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.82	757.3	30.00	761.9	56.8	13.5	63	S	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.77	756.2	30.04	762.9	56.1	13.4	56	WSW	7.4	3.3	.....	.....	7	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.10	739.0	29.99	761.6	56.5	13.6	75	SE	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.65	753.2	29.85	758.3	59.7	15.4	68	SE	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.74	755.5	30.00	762.0	58.8	14.9	69	NE	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.98	761.4	30.02	762.5	58.1	14.5	79	ESE	8.7	3.9	.....	.....	6	SW	.....	0.004	0.1	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.2	30.03	762.7	53.6	12.0	69	NE	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.23	767.8	30.24	768.1	44.6	7.0	70	NNE	7.3	3.3	.....	10ck	.....	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	760.5	30.15	765.8	48.4	9.1	70	N	1.8	0.8	.....	ck	9s	.....	.....	0	0	Cloudy	S. Takshayashi.
Tokei, (Yeddo) Observatory	30.13	765.3	30.20	767.1	41.1	5.1	85	N	6.3	2.8	.....	.....	10s	.....	.....	0.055	1.40	Covered	The Staff.
Wakayama	30.15	765.8	30.20	767.1	45.1	7.3	73	ENE	3.7	1.6	.....	ck	10s	.....	.....	0	0	Cloudy.	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	25.13	638.4	30.35	770.8	41.9	5.5	45	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	R. Banda, C. E.
Guadalajara	24.51	622.6	30.30	769.5	52.9	11.6	67	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	23.48	596.3	30.40	772.6	41.0	5.0	47	Calm	0	0	.....	.....	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.86	758.4	30.12	765.1	58.8	14.9	92	Calm	.....	.....	0	1cs	0	SW	.....	0	0	Light fog	F. Quijano, C. E.
Mexico, Central Observatory	28.11	587.1	30.24	768.1	46.9	8.3	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.16	613.4	.....	.....	59.7	15.4	45	SE	.....	.....	2	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	24.01	609.8	30.12	765.1	48.4	9.1	47	N	.....	.....	1	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.48	596.3	30.40	772.6	41.0	5.0	47	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.24	615.7	30.31	769.8	51.8	10.7	49	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.08	764.0	30.09	764.3	67.3	19.6	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Light fog	Prof. M. M. Chazaro.
Vera-Cruz	30.08	764.1	30.11	764.8	65.3	18.5	85	Calm	0	0	.....	.....	2sk	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.63	574.7	30.36	771.2	48.9	9.4	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.22	742.3	29.22	742 3	47.1	8.4	.....	WSW	.....	.....	5	.....	.....	.....	.....	0.197	5.0	.....	
Groningen	29.21	741.8	29.26	743.2	48.9	9.4	.....	S	.....	.....	3	.....	.....	.....	.....	0.305	8.0	.....	
Helder	29.20	741.7	29.20	741.7	50.0	10.0	.....	S	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.19	741.3	29.19	741.3	49.8	9.9	79	SSW	.....	.....	5	.....	.....	.....	.....	0.186	4.7	.....	
Utrecht	29.21	741.8	29.25	743.0	51.6	10.9	88	S	.....	.....	5	.....	8	.....	.....	0.244	6.2	Very cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	29.21	741.8	29.26	743.2	37.4	3.0	62	ESE	20.6	9.2	.....	.....	10	.....	.....	0.024	0.6	Snowing.....	
Brönö	29.82	757.3	29.85	758.3	25.2	— 3.8	62	E	36	16	.....	.....	3	.....	.....	0	0	.....	
Christiana	29.78	756.4	29.93	760.3	26.8	— 2.9	81	ESE	7	3	.....	.....	10	.....	.....	.....	.....	Snowing.....	
Tromsö	30.01	762.2	30.05	763.3	25.9	— 3.4	74	SW	29	13	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.66	753.3	29.95	760.7	56.8	13.8	78	WNW	.....	.....	5	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.81	731.8	29.82	757.5	49.3	9.6	94	W	5.6	2.5	.....	.....	9	.....	.....	0.213	5.4	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.95	760.8	30.04	763.0	64.2	17.9	51	WSW	11.9	5.3	.....	.....	1	.....	.....	0.071	1.8	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.46	748.3	29.82	757.5	51.4	10.8	84	WSW	16.1	7.2	.....	.....	10	.....	.....	0.811	20.6	Hailing.....	The Staff.
Ponta Delgada (Azores)	29.83	757.7	29.90	759.5	60.1	15.6	55	WNW	15.0	6.7	.....	.....	3	.....	.....	0.126	3.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa, Q. anza, Capt. Carlos Maria da Silva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
St. Paul de Loando	.....	.....	29.84	758.0	83.8	28.8	.....	WNW	.....	.....	2	.....	1	.....	WNW	1	WNW	Blue sky.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. de C. C. e Athayde.
Rio Lima, Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.05	763.3	75.2	24.0	.....	ENE	.....	.....	2	.....	2	.....	.....	3	NE	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. de Souza Roza, 2nd L't
Sado, Capt. J. A de Brito Capello, S. 3° 56′, E. 9° 44′	.....	.....	29.86	758.4	82.8	28.2	.....	NW	.....	.....	1	.....	6	.....	.....	1	.....	D. clouds, 50 minutes rain-fall.)	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	29.96	761.0	66.2	19.0	.....	NE	.....	.....	2	.....	10	.....	NE	1	.....	Raining, 3 hr's rain-fall]	A. Terceira, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.89	784.7	30.91	785.2	—11.6	—24.2	77	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.22	767.6	30.14	765.5	— 2.9	—19.4	75	NNE	13	6	.....	.....	3s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Barnaul	29.75	755.6	30.30	769.7	2.3	—16.5	80	NE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.34	770.6	30.61	777.5	2.8	—16.2	71	ESE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.45	747.9	29.56	776.3	—15.7	—26.5	77	NNE	9	4	.....	c	5cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.18	766.6	30.49	771.5	— 6.7	—21.5	70	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.13	765.4	30.15	765.9	7.2	—13.8	80	NE	9	4	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.67	753.6	30.40	772.1	— 4.9	—20.5	73	ENE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.89	759.3	30.45	773.3	—13.0	—25.0	69	N	18	8	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.08	764.1	30.32	770.1	— 8.0	—22.2	54	NNE	18	8	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	30.05	763.2	30.68	779.2	— 1.5	—18.6	53	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.09	713.1	30.77	781.6	—19.3	—28.5	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.22	767.5	30.29	769.3	2.3	—16.5	70	NE	13	6	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.54	750.3	29.78	756.4	38.8	3.8	39	SW	2	1	.....	.....	2s	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.74	780.7	30.75	781.1	4.3	—15.4	63	SE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.37	720.5	30.04	762.9	27.0	— 2.8	81	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.43	722.0	29.87	758.7	42.3	5.7	48	NW	45	20	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.61	752.2	30.07	763.6	22.1	— 5.5	73	ESE	18	8	.....	.....	4cks	.....	.....	.....	.....	Solar corona	Astronomical Obs.
Wilna	29.95	760.8	30.41	772.5	11.1	—11.6	75	ESE	7	3	.....	.....	3	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Yeniseisk	30.37	771.5	30.71	780.1	—17.0	—27.2	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.57	751.0	29.67	753.7	59.0	15	71	SW	3.8	1.72	.....	.....	3	.....	.....	0	0	Misty.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.52	749.7	29.57	751.1	61.5	16.4	46	NW	9.3	4.17	.....	3	2	SW	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.64	676.7	.....	.....	43.3	6.3	78	S	20.6	9.31	.....	0	8	.....	.....	0.354	9.0	Raining.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.47	697.6	29.72	754.8	46.2	7.9	83	SW	26.1	11.67	.....	.....	10	.....	.....	0.181	4.6	Covered.....	The Staff.
Murcia, Met. Obs'y	29.58	751.2	29.77	756.1	59.9	15.5	64	NW	1.5	0.67	.....	5	5	SE	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.56	725.5	29.46	748.2	48.0	8.9	87	SSW	14.3	6.4	.....	.....	10	.....	.....	0.945	24.0	Raining.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.13	765.2	30.19	766.9	70.5	21.4	89	E	2.7	1.2	.....	1ck	1k;s	E	.....	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	757.8	29.88	759.1	80.6	27.0	68	E	15.4	7.0	.....	.....	.....	.....	.....	0	0	Very fair. ...	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.81	757.1	29.91	759.6	57.0	13.9	69	W	10.8	4.8	.....	0	9	.....	WNW	0.568	14.4	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.04	763.0	30.13	765.3	74.1	23.4	89	E	13.2	5.90	.....	6kn	7kn	E	E	0.472	12.00	Cloudy.....	Enriquez Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.14	765.6	30.58	776.6	— 7.6	—22.0	.....	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.43	772.8	30.48	774.1	7.5	—13.6	92	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	30.32	770.2	30.37	771.5	19.0	— 7.2	84	SE	.....	.....	4	.....	10	.....	.....	0.055	1.4	.....	
Stockholm	30.04	763.1	30.22	767.6	20.8	— 6.2	84	ESE	.....	.....	6	.....	10	.....	.....	0.008	0.2	Snowing	
Wisby	30.02	762.6	30.08	764.1	24.4	— 4.2	91	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Light snow..	
Sub-Series.																			
Upsala	30.13	765.2	30.21	767.4	21.0	— 6.1	84	SE	14.1	6.3	.....	.....	10	.....	.....	0.004	0.10	Snowing.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 22° 56′, W. 86° 34′	.....	.....	30.14‡	765.6‡	75.2	24.0	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.13	714.5	29.60	751.7	41.7	5.4	81	N	.....	.....	2	.....	10	.....	.....	0.016	0.4	Covered.....	The Observatory.
Zurich	27.95	710.0	29.61	752.1	48.0	8.9	70	W	.....	.....	1	.....	7	.....	.....	0.122	3.1	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer,—11.7 mm.; Thermometer, +1.6 Cent. Relative Humidity, +10 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.07	763.6	43.7	6.5	63	N	9	4.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.03	762.8	49.3	9.6	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.86	758.4	59.0	15.0	53	N	.....	.....	1	2c	.....	.....	.....	0.06	1.5	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.54	775.7	30.55	776.0	12	—11.7	.....	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Chatham, N. B	30.53	775.4	30.60	777.2	7.3	—13.7	89	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.47	773.9	30.52	775.2	14.3	— 9.8	77	NW	14	6.3	.....	0	0	.....	.....	0.10	2.5	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	30.11	764.8	30.30	769.6	22.2	— 5.4	93	E	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	30.41	772.4	30.59	777.0	9.5	—12.5	.....	W	.....	.....	2	0	0	.....	.....	0	0	Clear.	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	— 2.5	—19.2	83	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	J. McWilliams.
Fredericton, N. B	30.60	777.2	30.67	779.0	5.1	—14.9	98	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
Fort Garry, Manitoba	28.99	736.3	29.92	760.0	— 5.0	—20.6	100	W	25	11.2	.....	0	0	.....	.....	0.515	13.08	Clear.	James Stewart.
Granton, Ontario	29.00	736.6	30.13	765.3	4 .0	4.4	100	S	.....	.....	2	1cs	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S	30.45	773.4	30.59	777.0	18.9	— 7.3	86	NW	6	2.7	.....	0	0	.....	.....	0.030	0.76	Clear.	A. Allison.
Hamilton, Ontario	29.83	757.7	30.21	767.3	41.3	5.2	72	N	.....	.....	1	3ck	0	N	.....	0	0	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.97	761.2	30.33	770.4	25.1	— 3.8	91	SE	6	2.7	.....	7c	0	.....	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.34	770.6	30.38	771.6	14.4	— 9.8	91	NW	10	4.5	.....	4k	0	NW	.....	0	0	Fair...	C. H. Rigby.
Montreal, Quebec	30.26	768.6	30.48	774.2	12.8	—10.7	89	SE	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nesson.
Norwood, Ontario	29.50	749.3	30.23	767.8	29.0	— 1.7	92	SE	4	1.8	.....	2cs	0	.....	.....	0	0	Fair.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.38	746.2	30.10	764.5	24.0	— 4.4	79	SE	19	8.5	.....	0	2ks	.....	.....	0	0	Fair...	Rev. R. Mosley.
Peterboro, Ontario	29.46	748.0	30.24	768.1	27.4	— 2.6	63	W	.....	.....	1	0	3ks	.....	.....	0	0	Fair...	J. F. Jeffers, M. A.
Port Dover, Ontario	29.51	749.5	30.22	767.6	38.9	3.8	64	SW	16	7.2	.....	10ck	0	SW	.....	0.01	0.3	Fair.....	H. Morgan.
Port Stanley, Ontario	29.52	749.8	30.19	766.8	37.8	3.1	69	SE	8	3.6	.....	7ck	Haze	SW	.....	0	0	Cloudy.....	M. Payne.
Quebec, Quebec	30.28	769.1	30.63	778.0	9.5	—12.5	89	NE	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.74	755.4	30.22	767.6	26.1	— 3.3	83	E	8	3.6	.....	.....	10s	.....	.....	0	0	Threatening	W. H. McIntyre.
St. John, N. B	30.46	773.7	30.65	778.5	14	—10.0	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.38	745.0	30.06	763.5	41.0	5.0	65	S	17	7.6	.....	7cs	0	.....	.....	0	0	Fair...	Mrs. K. Stewart.
Stratford, Ontario	28.83	732.3	30.14	765.5	39.2	4.0	61	SW	12	5.4	.....	1cs	3s	NW	.....	0	0	Fair.....	C. J. MacGregor, M. A.
Sydney, C. B	30.32	770.1	30.36	771.1	16.4	— 8.7	83	NW	9	4.0	.....	0	1ks	.....	.....	0.32	8.1	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.82	757.4	30.22	767.6	34.2	1.2	89	SE	8	3.6	.....	5cs	0	W	.....	0	0	Fair.....	Magnetic Observatory
Windsor, N. S	30.46	773.7	30.57	776.5	18.0	— 7.8	92	NE	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear.	Prof. John E. Oram, M. A
Woodstock, Ontario	29.68	738.6	30.18	766.6	40.6	4.8	60	S	.....	.....	.....	5cs	0	W	.....	Inap.	Inap.	Fine.....	Professor Wolverton.
Yarmouth, N. S	30.60	777.2	30.67	779.0	24.7	— 4.1	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.44	747.8	29.70	754.4	20	— 6.7	100	NE	.....	.....	.....	.....	10n	.....	.....	1.50	38.1	.....	John Delany.
St. Pierre, N. F., Pilopital Maritime	.....	.....	29.86	758.9	16.5	— 8.6	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.31	769.9	30.55	776.0	34	1.1	70	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Alpena, Michigan	29.28	743.7	29.93	760.2	38	3.3	91	SW	12	5.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.26	743.2	30.46	773.7	46	7.8	69	E	10	4.5	.....	10ck	0	Calm;SE	.....	0	0	Cloudy	
Atlantic City, New Jersey	30.63	778.0	30.65	778 5	42	5.6	91	S	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear.	
Augusta, Georgia	30.36	771.1	30.57	776.5	50	10.0	72	SE	2	0.9	.....	0	8s	.....	SE	0	0	Fair	
Baltimore, Maryland	30.58	776.7	30.63	778.0	40	4.4	82	S	2	0.9	.....	2c	Haze	W	Calm	0	0	Fair	
Barnegat, New Jersey	30.61	777.5	30.63	778.0	42	5.6	91	S	10	4.5	.....	5c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	28.19	716.0	30.05	763.3	— 6	—21.1	100	NW	18	8.0	.....	0	1s	.....	Calm	0	0	Clear	
Boerne, Texas	28.57	725.7	29.87	758.7	57	13.9	94	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Boise City, Idaho	27.29	693.2	30.25	768.3	22	— 5.6	86	NW	4	1.8	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Boston, Massachusetts	30.50	774.7	30.67	779.0	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Brackettville, Texas	28.85	732.8	29.92	760.0	52	11.1	86	E	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.88	733.5	29.98	761.5	1	—17.2	100	NW	30	13.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.97	761.2	30.01	762.2	64	17.8	94	SE	8	3.6	.....	0	2s	.....	SE	0	0	Clear	
Buffalo, New York	29.50	749.3	30.22	767.6	46	7.8	47	S	15	6.7	.....	2c	2s	Calm	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	30.18	766.6	30.49	774.4	31	— 0.6	69	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Cairo, Illinois	29.81	757.2	30.21	767.3	54	12.2	61	S	22	9.8	.....	.....	10s	.....	S	0	0	Cloudy	
Campo, California	27.41	696.0	29.98	761.5	39	3.9	91	Calm	0	0	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Cape Hatteras, N. Carolina	30.60	777.2	30.61	777.5	54	12.2	80	NE	12	5.4	.....	8k	0	E	.....	0	0	Cloudy	
Cape Henry, Virginia	30.64	778.2	30.66	778.7	44	6.7	76	SE	7	3.1	.....	8cs	Haze	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.60	777.2	30.61	777.5	51	10.6	79	NE	16	7.2	.....	5ck	0	N	.....	0	0	Fair	
Cape May, New Jersey	30.61	777.5	30.64	778.2	43	6.1	83	S	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Castroville, Texas	29.24	742.7	29.94	760.5	54	12.2	93	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Cedar Keys, Florida	30.35	770.9	30.38	771.6	58	14.4	82	E	12	5.4	.....	1ck	1s	S	S	0	0	Clear.	
Charleston, South Carolina	30.45	773.4	30.51	774.9	56	13.3	57	E	11	4.9	.....	0	5ks	.....	SW	0	0	Fair	
Charlotte, North Carolina	29.68	753.9	30.54	775.7	39	3.9	73	NE	4	1.8	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.62	752.3	30.45	773.4	48	8.9	70	S	8	3.6	.....	2k	Sm'e	S	Calm	0	0	Fair	
Cheyenne, Wyoming	23.82	605.0	29.76	755.9	11	—11.7	60	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.23	742.4	29.92	760.0	49	9.4	51	S	16	7.2	.....	5k	0	S	.....	0	0	Fair	
Cincinnati, Ohio	29.64	752.8	30.31	769.9	50	10.0	52	S	13	5.8	.....	5k	0	SW	.....	0	0	Fair	
Cleveland, Ohio	29.49	749.0	30.22	767.6	46.5	8.1	37	SE	19	8.5	.....	5cs	2s	W	Calm	0	0	Fair	
Coleman City, Texas	28.17	715.5	29.82	757.4	55	12.8	81	SW	15	6.7	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.44	747.8	30.30	769.6	45	7.2	46	S	9	4.0	.....	5cs	Sm'e	S	Calm	0	0	Fair	
Concho, Texas	28.02	711.7	29.66	753.4	58	14.4	82	S	20	8.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.57	751.1	30.03	762.7	59	15.0	82	S	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.19	741.4	29.82	757.4	47	8.3	62	S	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	15	— 9.4	65	E	.....	.....	1	0	2s	.....	W	0	0	Fair	
Deadwood, Dakota	25.24	641.1	.....	.....	3	—16.1	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.86	733.0	30.06	763.5	44	6.7	60	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Delaware Breakwater, Del.	30.61	777.5	30.64	778.2	41	5.0	82	NW	14	6.3	.....	2cs	0	NW	.....	0	0	Fair	
Denison, Texas	29.19	741.4	29.97	761.2	60	15.6	88	S	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
Denver, Colorado	24.63	625.6	29.85	758.2	21	— 6.1	71	SE	10	4.5	.....	0	5n	.....	Calm	Inap.	Inap.	Light snow	
Des Moines, Iowa	28.89	733.8	29.79	756.7	34	1.1	70	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.42	747.5	30.10	764.5	43	6.1	83	S	13	5.8	.....	0	2s	.....	Calm	0	0	Clear.	
Dodge City, Kansas	27.32	693.9	29.72	754.9	22	— 5.6	58	N	24	10.7	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.08	738.6	29.78	756.4	43	6.1	67	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	28.98	736.1	29.67	753.6	30	— 1.1	89	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Eagle Pass, Texas	29.14	740.1	29.86	758.4	59	15.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.56	776.2	30.64	778.2	19	— 7.2	69	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.49	749.0	30.22	767.6	46	7.8	40	S	18	8.0	.....	0	5s	.....	Calm	0	0	Fair	
Escanaba, Michigan	29.11	739.4	29.78	756.4	34	1.7	61	SW	11	4.9	.....	0	5s	.....	SW	0	0	Fair	
Florence, Arizona	28.49	723.6	30.09	764.3	35	1.7	90	S	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Fort Apache, New Mexico	.....	.....	.....	.....	20	— 6.7	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.01	711.4	30.10	764.5	— 9	—22.8	78	NW	8	3.6	.....	0	0	.....	.....	0.09	2.3	Clear	
Fort Custer, Montana	26.90	683.2	.....	.....	— 6	—21.1	61	S	2	0.9	.....	0	0	.....	.....	0.10	2.5	Clear.	
Fort Davis, Texas	25.11	637.8	30.07	763.8	43	6.1	14	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.40	746.7	29.93	760.2	58	14.4	76	S	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Grant, Arizona	25.17	639.3	29.97	761.2	38	3.3	31	W	5	2.2	.....	5cs	0	NW	.....	0	0	Fair	
Fort Griffin, Texas	28.65	727 7	29.90	759.4	57	13.9	81	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.41	696.2	.....	.....	0	—17.8	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.70	703.6	29.67	752.1	53	11.7	93	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.82	757.4	50	10.0	93	SE	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Fort Stevenson, Dakota	28.07	713.0	.....	.....	—10	—23.3	77	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Verde, Arizona	.....	.....	.....	.....	37	2.8	71	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.18	715.8	29.73	755 1	55	12.8	68	S	15	6.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Galveston, Texas	30.10	764.5	30.14	765.5	62	16.7	89	S	5	2.2	.....	0	2s	.....	S	0	0	Clear.	
Grand Haven, Michigan	29.28	743.7	29.93	760.2	44	6.7	68	S	24	10.7	.....	10k	0	SW	.....	0	0	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.35	745.5	30.13	765.3	50	10.0	52	S	8	3.6	.....	0	5ks	.....	SW	0	0	Fair	
Indianola, Texas	30.06	763.5	30.09	764.3	65	18.3	89	SE	14	6.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Jacksboro, Texas	28.77	730.7	29.88	758.9	60	15.6	88	SW	16	7.2	.....	0	5s	.....	SW	0	0	Fair	
Jacksonville, Florida	30.40	772.1	30.42	772.7	58	14.4	82	NE	2	0.9	.....	Haze	8s	Calm	NE	0	0	Cloudy	
Keokuk, Iowa	29.16	740.7	29.76	755.9	52	11.1	66	S	17	7.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Key West, Florida	30.19	766.8	30.22	767.6	70	21.1	85	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.64	778.2	30.66	778.7	49	9.4	85	E	5	2.2	.....	2c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.43	747.5	30.50	774.7	35.5	1.9	85	NE	1	0.4	.....	2cs	8ks	NW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	28.92	734.6	29.69	754.1	44	6.7	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	34	1.1	25	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Laredo, Texas	29.54	750 3	29.88	758.9	60	15.6	65	SE	4	1.8	.....	2k	0	NW	.....	0	0	Clear.	
Leavenworth, Kansas	28.94	735.1	29.77	756.1	44	6.7	68	NW	9	4.0	.....	0	9s	.....	NW	0	0	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	16	— 8.9	83	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Little Rock, Arkansas	29.79	756.7	30.15	765.8	58	14.4	76	S	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Los Angeles, California	29.78	756.4	30.13	765.3	41.5	5.3	66	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Louisville, Kentucky	29.68	753.9	30.25	768.3	51	10.6	46	SE	15	6.7	.....	2c	2s	S	Calm	0	0	Fair	
Lynchburg, Virginia	29.88	758.9	30.61	777.5	35	1.7	79	NW	1	0.4	.....	2c	0	W	.....	0	0	Clear.	
Madison, Wisconsin	28.78	731.0	29.76	755.9	45	7.2	61	S	20	8.9	.....	0	5s	.....	S	0	0	Fair	
Marquette, Michigan	28.99	736.3	29.69	754.1	38	3.3	81	SW	10	4.5	.....	5cs	0	SW	.....	0	0	Fair	
Mason, Texas	28.34	719.8	30.12	765.0	50	10.0	72	SE	10	4.5	.....	0	5s	.....	S	0	0	Fair	
Memphis, Tennessee	29.89	759.2	30.24	768.1	51	10.6	79	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	29.11	739.4	29.84	757.9	43	6.1	67	S	23	10.3	.....	0	2s	.....	SE	0	0	Fair	
Mobile, Alabama	30.28	769.1	30.33	770.4	53	11.7	86	Calm	0	0	.....	5k	2s	SW	Calm	0	0	Cloudy	
Montgomery, Alabama	30.16	766.1	30.41	772.4	51	10.6	78	SE	10	4.5	.....	8k	0	S	.....	0	0	Fair	
Morgantown, West Virginia	29.39	746.5	30.48	772.9	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.99	609.3	30.35	770.9	19	— 7.2	69	NW	36	16.1	.....	0	8ks	.....	Calm	0	0	Fair	
Nashville, Tennessee	29.80	756.9	30.35	770.9	48	8.9	56	SE	3	1.3	.....	0	2ks	.....	S	0	0	Fair	
New Haven, Connecticut	30.50	774.7	30.62	777.7	35	1.7	100	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
New London, Connecticut	30.61	777.5	30.66	778.7	33	0.6	79	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Orleans, Louisiana	30.20	767.1	30.27	768.8	60	15.6	70	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.60	777.2	30.65	778.5	40	4.4	73	SE	6	2.7	.....	Haze	Haze	.....	.....	0	0	Hazy	
New River, North Carolina	.....	.....	.....	.....	46	7.8	60	NE	.....	.....	1	5k	0	S	.....	0	0	Fair	
New York, New York	30.45	773 4	30.64	778.2	38	3.3	80	SE	3	1.3	.....	5cs	Haze	Calm	Calm	0	0	Clear	
Norfolk, Virginia	30.58	776.7	30.64	778.2	40	4.4	73	S	7	3.1	.....	2c	0	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.05	687.1	29.79	756.7	16	— 8.9	58	NW	16	7.2	.....	8k	2s	NW	NW	0	0	Cloudy	
Olympia, Washington Ter.	30.15	765.8	30.20	767.1	30.0	— 1.1	84	S	6	2.7	.....	2cs	0	Calm	.....	0.01	0.3	Fair	
Omaha, Nebraska	28.74	730.0	29.90	759.4	19	— 7.2	69	N	20	8.9	.....	0	2s	.....	N	0	0	Clear	
Oswego, New York	29.99	761.7	30.33	770.4	39	3.9	64	SE	14	6.3	.....	5cs	Haze	Calm	.....	0	0	Fair	
Pembina, Dakota	28.87	733.3	29.79	756.7	— 2	—18.9	100	NW	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.33	770.4	30.36	771.1	58	14.4	88	E	10	4.5	.....	4k	7ks	S	S	0	0	Cloudy	
Philadelphia, Pennsylvania	30.57	776.5	30.62	777.7	39	3.9	82	S	4	1.8	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.77	730.7	30.03	778.0	41	5.0	65	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.24	437.9	29.45	748.0	— 4	—20.0	100	SW	14	6.3	.....	.....	10n	.....	SW	0.26	6.6	Light snow	
Pilot Point, Texas	29.12	739.6	29.93	760.2	56	13.3	69	SE	20	8.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Pioche, Nevada	23.92	607.3	29.70	754.4	11	—11.7	50	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.54	750.3	30.38	771.6	41	5.0	65	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.42	747.3	30.10	764.5	42	5.6	50	S	20	8.9	.....	2cs	0	W	.....	0	0	Clear	
Portland, Maine	30.59	777.0	30.65	778.5	28	— 2.2	66	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Portland, Oregon	30.20	767.1	30.28	769.1	31	— 0.6	89	S	3	1.3	.....	0	1s	.....	S	0.06	1.5	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	86	NE	10	4.5	.....	1k	0	Calm	.....	0	0	Clear	
Prescott, Arizona	24.62	625.3	29.98	761.5	20	— 1.7	78	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.27	768.8	30.28	769.1	64	17.8	89	NE	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Red Bluff, California	29.95	760.7	30.34	770.6	29	— 1.7	67	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.62	752.3	30.25	768.3	44	6.7	45	SW	9	4.0	.....	5cs	Haze	W	Calm	0	0	Fair	
Roseburg, Oregon	29.75	755.6	30.37	771.4	22	— 5.6	93	Calm	0	0	.....	Haze	1s	Calm	Calm	0.34	8.6	Fair	
Sacramento, California	30.20	767.1	30.28	769.1	34	1.1	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.42	747.3	29.99	761.7	43	6.4	57	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.93	734.8	29.78	756.4	27	— 2.8	77	W	7	3.1	.....	5ck	2ks	W	W	0	0	Fair	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	11	—11.7	60	SE	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
San Antonio, Texas	29.45	748.0	30.04	763.0	60	15.6	88	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.05	763.3	30.13	765.3	48	8.9	63	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Sandusky, Ohio	29.49	749.0	30.18	766.6	46	7.8	62	S	26	11.6	.....	5c	0	Calm	.....	0	0	Fair	
Sandy Hook, New Jersey	29.69	754.6	29.63	752.6	41	5.0	65	SW	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
San Francisco, California	30.24	768.1	30.30	769.6	40	4.4	56	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.09	586.5	29.63	752.6	9	—12.8	36	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.42	772.7	30.52	775.2	53	11.7	86	NE	5	2.2	.....	8c	0	W	.....	0	0	Fair	
Shreveport, Louisiana	29.91	759.7	30.13	765.3	59	15.0	76	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.56	776.2	30.59	777.0	52	11.1	79	N	7	3.1	.....	8k	1s	SE	Calm	0	0	Cloudy	
Socorro, New Mexico	25.24	641.1	29.31	744.5	45	7.2	61	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.30	744.2	29.98	761.5	45	7.2	61	SE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.49	774.4	30.64	778.2	30	— 1.1	89	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Stockton, Texas	29.92	683.8	29.92	760.0	37	2.8	31	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.56	776.2	30.62	777.7	42	5.6	83	SW	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy	
Toledo, Ohio	29.43	747.5	30.12	765.0	47	8.3	48	S	16	7.2	.....	5ck	1s	W	.....	0	0	Fair	
Tucson, Arizona	27.49	698.2	30.04	763.0	44	6.7	52	SE	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.94	760.5	30.48	774.2	20	— 6.7	85	SE	4	1.8	.....	0	1s	.....	.....	0	0	Clear	
Uvalde, Texas	29.11	739.4	29.92	760.0	56	13.3	94	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.01	762.2	30.27	768.8	54	12.2	80	SE	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.06	611.0	29.57	751.1	— 3	—19.4	66	Calm	0	0	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Visalia, California	29.81	757.2	30.20	767.1	28	— 2.2	88	SE	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Washington, D. C.	30.48	774.2	30.61	777.5	38	3.3	81	S	6	2.7	.....	5c;cs	0	Calm	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	88	NW	.....	.....	1	0	Sm'e	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.51	774.9	30.60	777.2	45	7.2	68	NE	5	2.2	.....	8ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	13	—10.6	81	S	16	4.5	.....	0	1s	.....	SW	0.01	0.3	Clear	
Wood's Holl, Massachusetts	30.63	778.0	30.67	779.0	41	5.0	73	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.72	729.5	30.11	764.8	15	— 9.4	82	NW	25	11.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.88	758.9	30.04	763.0	45	7.2	58	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	21.99	558.5	.....	.....	56.0	13.3	78	Calm	.....	.....	0	.....	9s;ks	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	77	25.0	69	Calm	0	0	.....	2c	Haze	Calm	.....	.....	.....	Hazy	James Gall.
Navassa, W. I.	30.01	762.2	30.09	764.3	77	25.0	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	76	24.4	91	E	.....	.....	3	.....	8ks	E	.....	0.360	9.14	Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.39	746.2	29 94	760.5	77	25.0	84	Calm	.....	.....	0	.....	10ks	.....	.....	0.31	7.9	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.18	766.6	30.23	767.8	—35.0	—37.2	.....	NE	11	4.9	.....	2c	2s	N	NE	0.03	0.8	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,677 (?) ft., or 677 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,000 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.8 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,000 (?) ft., or 625 (?) m.; Winnemucca, 4,336.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.34 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.32‡	770.1‡	.....	.....	58	14.4	88	NE	6	2.7	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	30.55‡	776.0‡	.....	.....	30	— 1.1	78	NW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.14‡	765.5‡	.....	.....	42	5.6	77	NNE	.....	.....	4	.....	10s	.....	NE	Slight	Slight	.....	.....	Overcast	
Adams, Mazatlan, Mexico	30.09‡	764.3‡	.....	.....	60	15.6	88	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Smooth	S	Cloudy	
Colorado, New York, N. Y.	30.66‡	778.7‡	.....	.....	37	2.8	.....	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Constitution, Aspinwall, Panama	29 93‡	760.2‡	.....	.....	79	26.1	78	NNE	.....	.....	5	.....	5	.....	NE	.....	.....	Mod'ate	NNE	Fair	
Enterprise, Villafranca, France	29.92‡	760.0‡	.....	.....	67	13.9	94	ESE	.....	.....	2	.....	10	.....	ESE	.....	.....	Long	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.67‡	779.0‡	.....	.....	39	3.9	91	SE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.28‡	769.1‡	.....	.....	39	3.9	91	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Kearsarge, Shephard's Harbor, Chiriqui	30.07‡	763.8‡	.....	.....	75	23.9	86	Calm	.....	.....	0	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Lackawana, Navy Yard, Mare I'd., Cal.	30.15‡	765.8‡	.....	.....	42	5.6	83	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Marion, S. 38° 07', W. 53° 39'	30.06‡	763.5‡	.....	.....	65	18.3	68	WSW	.....	.....	2	.....	0	.....	.....	0	0	Long	S;W	Clear	
Michigan, Erie, Pa.	30.22‡	767.6‡	.....	.....	46	7.8	69	SSW	.....	.....	3	.....	2	.....	NW	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China	30.19‡	766.8‡	.....	.....	43	6.1	92	NE	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Overcast	
New Hampshire, Port Royal, S. C.	30.46‡	773.7‡	.....	.....	57	13.9	81	NE	9	4.0	.....	.....	9	.....	NE	0	0	.....	.....	Cloudy	
Nipsic, St. Thomas, W. I.	30.10‡	764.5‡	.....	.....	75	23.9	72	ENE	.....	.....	2	.....	2	.....	ENE	.....	.....	.....	.....	D. clouds	
Onward, Callao, Peru †.	29.91‡	759.7‡	.....	.....	74	23 3	86	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Hazy	
Palos, Tientsin, China	30.53‡	775.4‡	.....	.....	32	0.0	79	SSE	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 5° 12', W. 81° 21'	29.92‡	760.0‡	.....	.....	73	22.8	95	NE	*	.....	2	.....	8	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Norfolk, Va.	30.65‡	778.5‡	.....	.....	44	6.7	68	SSE	.....	...	1	.....	5	.....	.....	.....	.....	.....	.....	Hazy	
Quinnebaug, Leghorn, Italy	29.94‡	760.5‡	.....	.....	56	13.3	75	SSE	.....	.....	4	.....	07	.....	.....	.....	.....	.....	.....	Cloudy?	
Richmond, Hong-Kong, China	29.91‡	759.7‡	.....	.....	62	16.7	88	E	.....	.....	3	.....	10	.....	.....	0.38	9.7	Smooth	.....	Misty	
Rio Bravo, Brownsville, Texas †	30.18‡	766.6‡	.....	.....	65	18.3	94	SSE	2	0.9	.....	.....	5	.....	SSE	0	0	.....	.....	Fair	
Santee, Annapolis, Md	30.61‡	777.5‡	.....	.....	43	6.1	75	SW	.....	.....	2	.....	2	.....	SW	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	30.08‡	764.0‡	.....	.....	70	21.1	90	W	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
St. Louis, League Island, Pa.	30.67‡	778.5‡	.....	.....	35	1.7	90	SW	6	2.7	....	.....	0	.....	.....	0	0	.....	.....	Clear	
Swatara, Gibraltar, Mediterranean	29.91‡	759.7‡	.....	.....	60	15.6	94	WNW	.....	.....	4	.....	10	.....	W	.....	.....	Smooth	.....	Rainy	
Tennessee, Norfolk, Va.	30.67‡	779.0‡	.....	.....	43	6.1	92	SE	7	3.1	.....	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Trenton, Toulon, France	29.85‡	758.2‡	.....	.....	57	13.9	81	E	.....	.....	4	.....	10	.....	.....	12hours	12hours	.....	.....	Cloudy	
Tuscarora, San José, Guatemala	30.01‡	762.2‡	.....	.....	75	23.9	77	NW	.....	.....	1	.....	2	.....	N	0	0	Long	S	Clear	
Wabash, Boston, Mass.	30.66‡	778.7‡	.....	.....	35	1.7	80	SE	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Wachusett, Montevideo, Uruguay †	30.59‡	777.0‡	.....	.....	70	21.1	70	W	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	W	Fair	
Wyoming, Naples, Italy	30.01‡	762.2‡	.....	.....	57	13.9	75	WNW	.....	.....	0-1	.....	8	.....	NW	.....	.....	Smooth	NW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35. meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 44° 19′, W. 51° 09′ †.	29.65‡	760.6‡	28	—2.2		NW			9		10		NW			Very heavy	W	Snowing	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton N. 51° 08′, W. 32° 00′	28.98‡	736.1‡				NNE			6		8		SE			Trou-bled.	E	Overcast	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	29.44‡	747.8‡	58	14.4	88	SW			6		8		SW	Mod'ate				Clear	
S. S. Ohio, Henry Morrison																			Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger. N. 23° 36′, W. 110° 54′ †.	30.24‡	768.1‡				WNW			8		2		NW			Small	WNW	Clear	
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 49° 07′, W. 19° 31′	28.65‡	727.7‡	50.0	10 0	75	WNW			6		8		WNW	1 h'r	1 h'r	Heavy	WNW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Hong Kong, China †	29.94‡	760.5‡	63	17.2	94	E			4		10		E					Misty	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal. †	30.30‡	769.6‡				NE			3		ks		SE	0	0	Sm'e		Foggy	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander N. 38° 40′, W. 118° 17′ †	30.42‡?	772.7‡?	40	9.4		NNW			2		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dobney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels and Captains.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 13° 24', W. 89° 40'...†	30.04‡	763.0‡	82	27.8	91	E			2		2		NE	0	0	Small	SE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd.†	30.08‡	764.0‡	26	— 3.3	.....	W	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly, San José, Guatemala.†	29.99‡	761.7‡	74	23.3	.....	NE	.....	.....	0-1	.....	2	.....	Calm	0	0	Sm'e	S	Clear.	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Z alandia, R. C. Ghest, N. 37° 22', W. 123° 38'...†	30.26‡	768.6‡	.....	.....	.....	SS F	.....	.....	4	.....	.....	N	.....	.....	.....	Mod'ate	Con-fused	.....	.....
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Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Farmer & W. Apetan.
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Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.
Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Glendell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.
Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckie, B. F. Woodbury. S 42° 17', E. 111° 15'... *	30.03‡	762.7‡	55	12.8	.....	W	.....	.....	4	.....	2	.....	W	.....	.....	Long	WSW	Fair.....	B. F. Woodbury.
Brigantine George, W. H. Champlin.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Cross, W. Randall, N. 25° 50', W. 19° 50'.....	30.16†	766.1‡	68.5	20.3	77	NNW	.....	.....	2	.....	3	.....	N	0	0	Long	NW	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

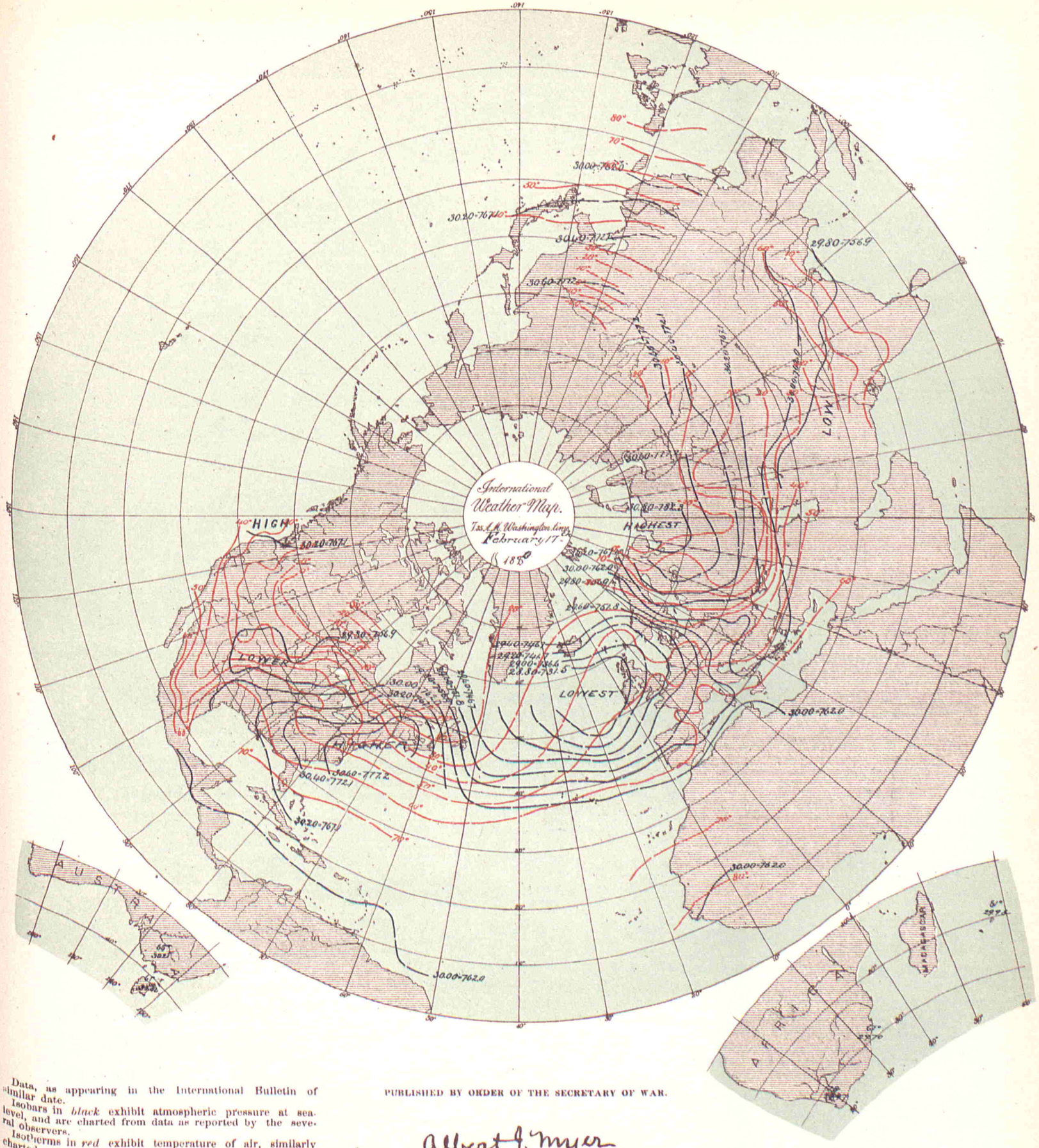
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 18, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.27	768.9	.....	.....	.....	SW	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	
Nemours	.....	.....	30.22	767.5	64.4	18.0	82	WNW	.....	.....	1	.....	2	.....	.....	0.118	3.0	Fair	Kesxuche.
Algiers	.....	.....	30.19	766.8	60.1	15.6	70	W	.....	.....	7	.....	2	.....	.....	0.126	3.2	Fair	Tourilliere.
La Calle	.....	.....	30.16	766.0	60.6	15.9	68	NW	.....	.....	6	.....	7	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.23	767.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.21	767.3	51.3	10.7	58	N	.....	.....	4	.....	7	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugnlaux.
Laghouat	.....	.....	30.25	768.4	58.6	14.8	26	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair..	Bertrand.
Biskra	.....	.....	30.15	765.7	70.5	21.4	49	WNW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.20	741.6	29.75	755.6	48.0	8.9	70	W	.....	.....	4	.....	10	.....	.....	0.339	8.6	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.9	29.96	760.9	16.3	— 8.7	91	E	10.2	8.6	.....	.....	10	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	28.95	735.2	29.85	758.3	34.0	1.0	93	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.62	724.3	29.80	756.9	36.7	2.6	74	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.45	722.5	29.94	760.5	30.0	— 1.1	78	SE	.....	.....	6	.....	10	.....	.....	0.024	0.60	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.44	722.3	29.83	757.6	33.8	1.0	96	W	.....	.....	1	.....	10	.....	.....	0	0	.....	The Staff.
Lemberg	29.09	738.9	30.19	766.9	7.2	—13.8	87	SE	.....	.....	2	.....	6	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.66	753.3	29.77	756.2	50.2	10.1	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	I.R.Hydrographic Office.
Szathmar	29.45	747.9	29.93	760.1	37.4	3.0	76	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.54	750.3	29.83	757.7	35.4	1.9	88	S	.....	.....	5	.....	10	.....	.....	0.089	2.25	.....	Karl Stancel.
Trieste	29.69	754.2	29.80	756.8	49.3	9.6	88	Calm	.....	.....	0	.....	10	.....	.....	0.559	14.2	Raining	P. Busin.
Vienna	29.08	738.5	29.81	757.1	35.6	2.0	82	N	.....	.....	1	.....	10	.....	.....	0.130	3.3	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.37	746.1	29.57	751.1	50.3	10.2	74	SSW	.....	.....	3	.....	10	.....	SW	0.171	4.35	.....	Royal Observatory.
Furnes	29.52	749.8	29.54	750.4	49.8	9.9	96	SW	.....	.....	4	.....	10	.....	.....	0.193	4.9	.....	M. E. de Cae.
Maeseyck	29.51	749.5	29.63	752.7	51.3	10.7	69	S	.....	.....	6	.....	9	.....	.....	0.130	3.3	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.00	736.6	29.10	739.1	44.0	6.7		SSE	17	7.6			9			0.400	10.16	Overcast	W. Boswell.
Ardrossan	29.04	737.6	29.09	737.9	45	7.2		SW			3		8					Overcast	G.Carrick.
Armagh, (Observatory)	28.80	731.5	29.03	737.3	49.0	9.4		SSW	16	7.2			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.21	741.9	50	10.0		SW	22	9.8			9					Overcast	John Hartnup.
Bolton (Sharples)	28.70	729.0	29.20	741.7	47.7	8.7		SSW	9	4.0			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	28.83	732.3	29.23	742.4	49.7	9.8	70	SW			2		8			0.01	0.3	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.03	762.7	76.5	24.7		NE			3		8					Overcast	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.28	743.7	29.37	746.0	51.5	10.8		SW			2		7			Blank	Blank	D. clouds	H. Todd.
Cardington			29.35	745.5	51.0	10.6		SW			3		7					D. clouds	John McLaren.
Chatham (School M. E.)	29.30	744.2	29.36	745.7	50.6	10.3		S			1	7ck						D. clouds	Lance Corp'l Hooker, R. E.
Dorchadee	29.03	737.3	29.07	738.4	47	8.3		SW			3		8					D. clouds	J. Mac Gowan.
Dover	29.41	747.6	29.44	747.8	45	7.2		SW			5		5					Showery	J. Costello.
Falmouth (Observatory)	29.14	740.1	29.37	746.0	51.0	10.6		SSW			5		10					Rain & fog	The Staff.
Fort Napier, Natal	27.54	699.5	29.75	755.6	65.8	18.8		SE			0		10					Raining	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.65	753.1	29.88	758.9	88	31.1		E			1		3k						
Galway (Queen's College)			28.85	732.8	48.5	9.2		S			5		10					Overcast	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.15	765.8	30.20	767.1	64.8	18.2		W			4		1					Blue sky	Corp'l S. Cordue, A.H.C
Glasgow, (Observatory)	28.86	733.0	29.06	738.1	44.9	7.2		SSW			3		10k					Gloomy	D. G. Maclean.
Great Yarmouth	29.38	746.2	29.39	746.2	47	8.3		SSW			4		8					Overcast	G. T. Watson.
Greenwich (Royal Obs'y)	29.24	742.7	29.41	747.0	50.3	10.2		WSW					10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.28	743.7	29.50	749.3	51	10.6		SW			3		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.53	750.0	29.65	753.1	51	10.6		SW			6		10n					Raining	M. P. Moyle.
Holyhead	29.10	739.1	29.15	740.4	49	9.4		SW			4		0					Blue sky	John Tilston.
Jersey	29.27	743.4	29.56	750.8	51.1	10.6		WSW			5	6c				Blank	Blank	Squally	J. Fisher.
Kew (Observatory)	29.38	746.2	29.42	747.3	50.2	10.1		SW	20	8.9			10					Threatening	The Met'g'l Office.
Leicester (Museum)	29.07	738.4	29.32	744.7	52.0	11.1		SW			2		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.84	757.9	64	17.8		NW					0					Blue sky	A. Kling.
Nairn	28.92	734.6	29.01	736.8	46	7.8		Calm			0		5					⅗ clouded	W. D. Penny.
Nassau, Bahamas			29.25	742.9	73.5	23.1		E					4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.14	740.1	29.33	745.0	51.5	10.8		SSW			5		8kd		WSW	0.010	0.25	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.78	731.0	29.30	744.2	48.5	9.2		SSW			4		10					Overcast	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.16	740.7	29.41	747.0	51	10.6		SW			3		6					D. clouds	The Staff, for E. J. Stone, Esq.
Plymouth	29.32	744.7	29.39	746.5	51.6	10.8		S			2		10					Overcast	John Merrifield.
*Roche's Point	28.97	735.8	29.06	738.1	48	8.9		SSW			6		10					Overcast	Wm. Kennedy.
St. Ann's Head	29.09	738.9	29.25	742.9	47	8.3		S			4		6					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.05	737.9	44	6.7		E	20	8.9			8					D. clouds	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.93	760.2	30.00	762.0	40.0	4.4		E			2		10			Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	29.01	736.8	29.28	743.7	50.1	10.1		SW			4		6			0.09	2.3	D. clouds	W. F. Cooper.
Silloth Rectory	29.10	739.1	29.13	739.9	47.8	8.8	83	SW			4		7			0.213	5.41	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)			29.21	741.9	48.8	9.3		SSW	18	8.0			10					Overcast	Rev. S. J. Perry.
Strafield, Turgiss	29.18	741.1	29.40	746.7	50.9	10.5		W			2-3		7					Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.29	744.0	29.34	745.2	53	11.7		SW			8		10					Raining	W. Newcombe.
Valencia Observatory)	28.86	733.0	28.89	733.8	51.7	10.9		S	13	23.7			10			Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.95	760.7	29.99	761.7	73.4	23.0	58	S	29.0	13.0		4c	6ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.46	646.7			69	20.6		ESE				8n	8n						Robert Burnet.
Constable, Cape Colony	26.76	679.7			62	16.7		SE					8						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			30.08	764.0	64.0	17.8	81	S			2		3k			0	0		Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith(RestalrigPark)Sc'tl'd			29.08	738.6	48.3	9.1		SW			2		9k			0.08	2.0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.95	760.7	80.3	26.8	68	SE	23.5	10.5		0	4		ESE	0.04	1.0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	66.0	18.9	73	SE	4	1.8			0			0	0	Dense haze	J. Youngclause.
Monach Lt-house, Hebrides			28.85	732.8	47	8.3		SSE			4	5	5	SSE		0.2	5.		
North Unst, Shetland Is			29.08	738.6				SSE			7	10	10	SSE		0	0		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.

	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 33° 57′. W. 23° 28′			30.13‡	765.3‡	75	23.9		NNW			4		8					D. clouds	Capt. Thos. Young.
City of Cashmere, S. 10° 30′, W. 35° 26′			30.02‡	762.5‡	82	27.8		E			4		6					D. clouds	Capt. W. M. Grieve.
Bute Fylde, N. 36° 25′. W. 74° 40′			30.32	770.1	62	16.7		S			5		9			3	SE	Overcast	Capt. L. C. Dart.
S. S. German, Capetown, Cape Good Hope			29.94‡	760.5‡	67	19.4		SE			8		6					Squally	Capt. O. D. Coxwell
Barque Royal Alexandra, S. 29° 34′ E. 42° 22′			30.00‡	762.0	83.3	28.5		NNE			3		3					Misty	Capt. W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding.
Barque Fedalma																			Capt. H. L. Fox.
H. M. S. Alert																			Capt. J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.
S. S. Richmond																			Capt. W. H. Stuart.

Note.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.28	667.5	30.00	762.0	61.7	16.5	81	NE	.....	.....	3	.....	2d	.....	NE	0	0	.....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.66	753.3	29.71	754.5	26.4 — 3.1	94	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	Snowing	
Fanöe	29.59	751.5	29.61	752.0	35.2 1.8	100	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....		
Godthaab (Greenland)	29.79	756.6	29.83	757.7	15.4 — 9.2	97	NW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	Snowing	
Stykkisholm (Iceland)	29.47	748.4	29.51	749.5	27.7 — 2.4	96	NE	.....	.....	8	.....	5	.....	.....	.....	.....	.....	Snowing	
Thorshavn (Faröe)	29.02	737.1	29.06	738.0	40.1 4.5	87	ENE	.....	.....	8	.....	10	.....	.....	.....	.....	.....		
Vestervig	29.53	750.0	29.64	752.8	30.6 — 0.8	98	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....		

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.14	740.1	29.69	754.1	52.7	11.5	75	SW	.....	.....	3	.....	8	.....	W	0.04	1.	Very cloudy	Collignon, Director.
Amiens, Normal School	29.48	748.8	29.60	751.7	51.8	11	86	WNW	.....	.....	2	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.31	744.5	29.57	751.0	50.7	10.4	79	W	.....	.....	3	c	10n	.....	.....	0.051	1.3	Sprinkling	Klein, Commandant.
Avignon, Normal School	29.87	758.6	29.95	760.6	60.4	15.8	45	NW	.....	.....	1–2	.....	2	.....	NW	0.575	14.6	Partly cld'y	Giraud, Director.
Bar-sur-Seine	29.23	742.5	29.79	756.6	50.2	10.1	72	SW	.....	.....	1	.....	8kn	.....	SW	0.303	7.7	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.34	745.2	29.60	751.8	52.7	11.5	75	SW	.....	.....	3	.....	8	.....	W	0.154	3.90	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	28.98	736.0	29.87	758.8	49.5	9.7	71	S	.....	.....	1	.....	8	.....	SW	0	0	Very cloudy	A. Carré, Director.
Bordeaux	29.70	754.3	29.89	759.3	58.3	14.6	63	WSW	.....	.....	2	.....	8	.....	.....	0.157	4.00	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.06	738.1	29.97	761.1	50.0	10	84	S	.....	.....	1	.....	n	S	S	0.685	17.4	.....	Marlot, Director.
Bourges, Normal School	29.26	743.1	29.78	756.3	51.8	11	86	WSW	.....	.....	1	.....	8sn	.....	WSW	0.244	6.2	Very cloudy	M. Gence, Director.
Brest, Naval Observatory	29.35	745.9	29.60	751.7	51.4	10.8	93	SW	.....	.....	3	.....	10	.....	SW	0.207	5.25	Raining	Ch. de Rermaree, Dir.
Caen, Normal School	29.50	749.4	29.58	751.3	53.6	12.0	78	SSW	.....	.....	2	.....	5	.....	SSW	0.039	1.0	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.53	750.0	29.94	760.4	61.2	16.2	49	NW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.42	747.2	29.74	755.3	50.0	10.0	82	SSW	.....	.....	2	.....	5	NE	NE	0	0	Cloudy	Jadot, Director
Chartres, Normal School	29.10	739.2	29.67	753.5	53.6	12	98	SW	.....	.....	3	.....	10	.....	.....	0.98	25.	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs'	28.51	724.1	29.87	758.7	49.6	9.8	64	WSW	.....	.....	3	.....	10	.....	W	0.075	1.9	.....	Alluard, Director.
Commercy, Normal School	28.89	733.8	29.75	755.7	48.4	9.1	76	W	.....	.....	4	.....	5kn	SW	SW	0.232	5.9	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.80	731.5	29.94	760.5	52.7	11.5	61	NW	.....	.....	3	.....	5	.....	NW	0.165	4.2	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.16	740.7	29.93	760.3	50.7	10.4	66	W	.....	.....	1	.....	ckn	.....	SE	0.835	21.2	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.00	761.8	29.81	757.2	52.2	11.2	9	SSW	.....	.....	3	.....	10	.....	SSW	0.071	1.8	Covered	Moullot, Director.
Le Mans, Normal School	29.39	746.6	29.70	754.4	53.2	11.8	74	WNW	.....	.....	6	.....	8	.....	W	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.98	736.1	29.90	759.4	52.0	11.1	63	S	.....	.....	1	.....	5cn	.....	W	1.043	26.50	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.56	750.7	29.67	753.5	51.8	11.0	90	S	.....	.....	6	.....	10	.....	.....	0.020	0.5	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.27	743.5	29.90	759.4	55.2	12.9	64	S	.....	.....	1	.....	5	E	W	0.461	11.7	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.35	753.2	29.93	760.1	56.8	13.8	62	WNW	.....	.....	3–4	.....	7	.....	WNW	0.047	1.2	.....	E. Stephan, Director.
Mirecourt, Normal School	28.74	729.9	29.79	756.7	47.8	8.8	76	SW	.....	.....	3	.....	5	.....	.....	0	0	Fair	Barbier, Director.
Mont-Louis	21.74	628.4	30.06	763.4	41.9	5.5	62	WSW	.....	.....	2	.....	3	.....	W	0	0	.....	M. Cave, for Dr. Fines.
Nice	29.69	754.1	29.72	755.0	56.5	13.6	80	E	.....	.....	3	.....	1	W	W	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.72	754.8	29.88	759.0	56.8	13.8	58	NW	.....	.....	6	.....	8	.....	N	0.532	13.5	Very cloudy	M. Boyer, Director.
Perpignan	29.84	758.0	29.95	760.7	60.8	16.0	86	N	11.2	5.0	.....	.....	3	NW	NW	0.028	0.7	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.40	569.1	.....	.....	28.0	— 2.2	.....	.....	.....	.....	.....	.....	1	.....	W	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.90	734.0	29.93	760.3	54.0	12.2	63	NW	.....	.....	1	.....	n	S	S	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	24.88	632.0	.....	.....	31.8	— 0.1	98	W	.....	.....	6	.....	Fog	.....	.....	0.193	4.9	Rain and fog	Alluard, Director.
Rochefort, Naval Obs'y	29.64	752.8	29.87	758.6	54.9	12.7	82	SW	.....	.....	6	.....	10	SW	SW	0.16	4.	Covered	Lt. E. Decante, Director
Rouen, Normal School	29.50	749.3	29.59	751.5	54.3	12.4	72	SW	.....	.....	2	.....	5	SW	SW	0.039	1.0	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.56	750.9	29.55	751.6	54.9	12.7	66	SW	.....	.....	4	.....	5	WSW	WSW	0.085	2.15	Cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.51	749.6	29.68	753.8	53.8	12.1	73	SW	.....	.....	3	.....	8	.....	SW	0.067	1.7	Very cloudy	E. Renou, Director.
Tarbes, Normal School	28.88	733.5	29.94	760.5	62.6	17	52	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.20	744.0	30.02	762.4	57.6	14.2	92	NNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	B. Baillaud, Dir.
Tours	29.56	750.7	29.75	755.7	53.6	12.0	78	SW	.....	.....	3	.....	8	.....	W	0.091	2.3	¾ covered	M. de Tastes.
Versailles, Observatory	29.17	740.9	29.66	753.4	53.2	11.8	74	W	.....	.....	3	.....	.....	.....	.....	0.019	0.48	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.17	740.8	29.88	758.9	54.0	12.2	91	SE	.....	.....	1	.....	5	.....	W	0.063	1.6	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.0	30.07	763.7	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.39	746.5	.....	.....	54.7	12.6	72	SW	.....	.....	4	.....	9	.....	SW	0.024	0.6	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.06	763.5	30.09	764.2	44.2	6.8	96	NNE	13.9	6.2	.....	.....	10n	.....	.....	0.589	13.7	Raining	Marc Dechevrens, J. S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint-Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.6	29.78	756.3	42.4	5.8	72	SE			4		6n	W		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.52	749.8	29.70	754.3	36.3	2.4	89	SE			1		10			0.283	7.2		Prof. Dr. Arndt.
Breslau	29.29	744.0	29.82	757.4	27.3	— 2.6	94	SE			4		10					Snowing	Royal University Obs'y
Carlsruhe	29.34	745.2	29.76	756.0	51.8	11.0	70	SW			2		2	SW		0.043	1.1		Albert Senz.
Cassel	29.05	737.8	29.65	753 2	47.8	8.8	74	S			1		2	SW		0.096	2.44		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.45	748.1	29.83	757.6	49.6	9.8	55	SW			3		6			0.120	3.6		Physical Society.
Friedrichshafen	28.41	721.6	29.87	758.7	43.3	6.3	86	SSW			2		10	SSW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.60	751 7	29.67	753.5	39.6	4.2	96	SW			2		10			0.390	9.9		Dr. Reinhold Kleeman.
Kiel	29.61	752.1	29.63	752.5	38.8	3.8	93	W			4		10			0.494	12.5		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.14	765.6	30.23	767.9	8.1	—13.3	60	SE			8		10			0	0		Prof. E. Luther.
Köslin			29.86	758.4	13.1	—10.5		SE			6		4			0	0		H. Müller.
Leipsic Observatory	29.31	744.5	29.74	755.3	42.6	5.9	87	SW			2		10	SW		0.244	6.2		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.47	748.5	29.69	754.2	45.1	7.3	84	SW			1		5cs	SW		0.283	7.2		Dr. Assmann.
Memel	30.24	768.2	30.29	769.4	9.7	—12.4	73	SE			6		6c						Reinbrecht & Issermann
Munich (München)	27.98	710.7	29.86	758.4	40.8	4.9	94	SW			3		10	SW		0.055	1.4	Light rain	Dr. C. Lang.
Neufahrwasser	30.06	763.4	30.07	763.8	14.5	— 9.7	64	SE			5		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.22	742.2	29.74	755.4	52.7	11.5	64	SW			2		4	NE		0	0		Reallehrer Dicknether.
Posen	29.57	751.1	29.88	759.0	17.8	— 7.9	80	SE			8		10			0 039	1.0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.25	743.0	29.80	757.0	52.5	11.4	65	SSW			4		3	SW		0.246	6.26		Imp. University Observatory.
Stuttgart	28.84	732.5	29.73	755.2	50.0	10.0	66	W			1		8	W		0.035	0.9	Light rain	Prof. Dr. Schoder.
Thorn	29.87	758.6	30.06	763.4	11.5	—11.4	86	SE			6		10			0.063	1.6		Dr. Cunerth.
Weissenburg (Bavaria)	28.80	718.9	29.87	758.8	43.0	6.1	86	W	1.1	0.5			10		W	0	0		Reallehrer J. Hopfner.
Wustrow	29.63	752.6	29.65	753.2	32.4	0.2	100	SE			4		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.4	29.98	761.4	56.8	13.8		SW			1.0		5					½ Clear	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Durriachee	29.99	761.7	30.04	763.0	72.6	22.6	60	SW	16	7.2			8		SW	0.04	1.0	D. clouds	
Beesa	29.50	749.4	29.99	761.8	69.8	21.0	14	W	7.4	3.3			0			0	0	Misty	
Kombay	29.88	759.0	29.92	760.0	71.3	21.8	51	NNW	25	11.2			0			0	0	Blue sky	
Poona (Yarrowda)	28.00	711.2	29.86	758.5	76.8	24.9	14	NNW	17	7.6			0			0	0	Blue sky	
Belgaum	27.31	693.7	29.83	757.6	79.6	26.4	39	NW	4	1.8			0			0	0	Blue sky	
Lahore	29.21	741.8	30.00	761.9	53.2	11.8	70	Calm	8.4	1.5			3			0	0	D. clouds	
Roorkee	29.06	738.1	30.01	762.3	54.8	12.7	62	SE	2.2	1.0			2			0.07	1.8		
Agra	29.36	745.7	29.95	760.7	62.8	17.1	33	W	3.3	1.5						0	0		
Nagpur	28.84	732.4	29.90	759.5	71.9	22.2	17	NW	5.8	2.6			0			0	0	Blue sky	
Jubbulpore	28.52	724.5	29.93	760.2	66.4	19.1	23	Calm	4.8	2.2						0	0	Blue sky	
Lucknow	29.54	750.3	29.93	760.3	60.3	15.7	68	NNW	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.60	751.9	29.93	760.2	59.5	15.3	57	Calm	2.8	1.2			0			0	0	Blue sky	
Patna	29.68	753.8	29.86	758.5	63.8	17.7	63	W	1.3	0.6			0			0.08	2.0	Blue sky	
Hazaribagh	27.79	705.8	29.85	758.0	57.8	14.3	48	NW	14.2	6.4			0			0.03	0.8	Drizzling	
Cuttack	29.72	754.8	29.80	756 9	77.8	25.4	44	W	8.0	1.3			0			0.17	4.3	Blue sky	
Calcutta (Alipore)	29.78	756.3	29.80	756.8	71.7	22.1	58	WNW	8.0	3.6			0			0	0	Blue sky	
Goalpara	29.35	745.5	29.75	755.7	64.3	17.9	88	ENE	7.0	3.1			9		SW	0.07	1.8	D. clouds	
Chittagong	29.70	754.3	29.79	756.6	71.8	22.1	92	SE	5.6	2.5			9			0	0	Gloomy	
Sibsagar	29.50	749.2	29.85	758.1	61.4	16.3	91	SW	1.7	0.8			10	W	W	0.21	5.1	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.43	747.4	29.85	758.1	45.1	7.3	93	E	1.8	0.8	.....	.....	10	.....	.....	0.264	6.7	.....	Prof. Giovanni Clodig.
Milan	29.26	743.3	29.80	756.9	40.3	4.6	92	W	.....	.....	1	.....	10	WSW	.....	0.654	16.6	.....	Prof. Schiaparelli.
Padua	29.67	753.6	29.78	756.5	40.8	4.9	98	N	7.4	3.3	.....	.....	10	.....	.....	0.283	7.2	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.87	733 3	29.81	757 2	45.7	7.6	77	S	0.7	0.3	.....	.....	6	SSW	.....	0.157	4.0	.....	Prof. P. F. Denza.
Genoa	29.60	751.9	29.76	756.0	51.4	10.8	58	NE	4.9	2.2	.....	.....	2	SW	.....	0.598	15.2	.....	Prof. G. M. Garibaldi.
Mondovi	27.86	707.6	29.82	757.3	44.2	6.8	72	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.71	754.6	29 76	755.8	47.3	8.5	78	E	5.6	2.5	.....	.....	10	S	.....	0.008	0.2	.....	Prof. Luigi Guidi.
Florence	29.48	748.9	29.73	755.0	57.2	14.0	78	S	.....	.....	2	.....	10	SW	.....	0.039	1.0	.....	Cav. F. Meucci.
Leghorn	29.70	754.3	29.79	756.6	55.6	13.1	77	SW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.69	754.2	29.87	758.8	55.2	12.9	77	S	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.61	752.2	29.87	758 8	59.4	15.2	67	SSE	15.0	6.7	.....	.....	6	SE	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.97	735.8	29.87	758.6	59.2	15.1	77	SE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.73	755.1	29.93	760.2	61.7	16.5	48	NW	.....	.....	4	.....	6	NW	.....	0.004	0.1	.....	Prof. A. Pacinotti.
Palermo	29.67	753.7	29.93	760.2	63.9	17.7	41	NNW	12.5	5.6	.....	.....	9	NNW	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.82	757.4	29.86	758.5	58.8	14.9	64	NNE	2.5	1.1	.....	.....	2	W	.....	0	0	.....	Prof. V.G. Gulfano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.8	29.93	760.1	53.2	11.8	69	SW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.25	768.3	30.27	768.8	45.0	7.2	67	NE	7.5	3.3	.....	.....	10s	.....	.....	0.216	5.49	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.86	758.4	30.07	763.8	48.7	9.3	84	NE	11.0	4.9	.....	.....	10n	.....	.....	0.900	22.86	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.28	769.1	30.35	770.9	43.3	6.3	81	ENE	4.9	2.2	.....	.....	10ck;s	.....	.....	0.040	1.02	Cloudy	The Staff.
Wakayama	30.23	767.8	30.28	769 1	41.6	5.3	68	NNE	5.7	2.5	.....	.....	10s	.....	.....	0.430	10.92	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	0	0	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.15	638.7	30.35	770.9	42.8	6.0	45	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.53	622.8	30.29	769.4	54.0	12.2	68	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.84	757.8	30.10	764.5	67.6	14 2	96	NW	.....	.....	2	1s	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.14	587.7	30.25	768.3	48.4	9.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.18	614.2	.....	.....	60.6	15.9	28	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	24.04	610.5	30.15	765.9	44.6	7.0	45	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
Puebla (Catholic Institute)	23.47	596.1	30.41	772.5	43.0	6.1	47	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.28	616.7	30.37	771.3	50.7	10.4	60	W	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.05	763.3	30.06	763.6	67.3	19.6	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.02	762.5	30.05	763.2	68.0	20.0	90	Calm	0	0	.....	.....	3k	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.05	575.2	30.38	771.7	49.6	9.8	50	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.52	749.8	29.52	749.8	48.4	9.1	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.028	0.7	.....	
Groningen	29.53	750.1	29.59	751.5	46 0	7.8	.....	S	.....	.....	0	.....	.....	.....	.....	0.051	1.3	.....	
Helder	29.50	749.4	29.50	749.4	47.5	8.6	.....	S	.....	.....	5	.....	.....	...	.....	0.134	3.4	.....	
Hellevoetsluis	29.51	749.5	29.51	749.5	48.0	8.9	81	S	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.52	749.9	29.57	751.1	50.4	10.2	78	SSW	.....	.....	5	.....	8	.....	.....	0.016	0.4	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	29.38	746.3	29.44	747.7	45.3	7.4	95	SSE	15.2	6.8	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.63	752.7	29.67	753.7	30.2	— 1.0	80	SE	27	12	.....	.....	8	.....	.....	0	0	.....	
Christiana	29.72	754.8	29.87	758.7	27.5	— 2.5	81	ENE	11	5	.....	.....	10	.....	.....	0.197	5.0	Snowing.....	
Tromsö	29.73	755.1	29.77	756.2	19.4	— 7.0	57	SW	20	9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Angra (Azores)	29.42	747.3	29.63	752.7	57.9	14.4	84	W	.....	.....	6	.....	7	.....	.....	0.197	5.0	.....	Dr. J. A. Sampaio.
Campo Major	29.20	741.7	30.22	767.5	55.0	12.8	86	SSW	4.9	2.2	.....	.....	10	.....	.....	0.157	4.0	.....	Dr. A. M. R. dos Santos
Funchal (Maderia)	30.11	764.7	30.19	766.9	64.2	17.9	56	WSW	6.3	2.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.82	757.3	30.18	766.5	57.6	14.2	78	SW	18.6	8.3	.....	.....	6	.....	.....	0.106	2.7	.....	The Staff.
Ponta Delgada (Azores)	29.63	752.5	29.70	754.3	68.3	14.6	89	W	25.5	11.4	.....	.....	10	.....	.....	0.118	3.0	Raining.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel Height scale 0-9	Sea or swel Direction form—	Weather.	Observer
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa, Q. anza, Capt. Carlos Maria da Silva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
St. Paul de Loando	.....	.....	29.86	758.4	84.2	29.0	.....	WSW	.....	.....	2	.....	3	.....	WSW	1	WSW	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.10	764.4	75.6	24.2	.....	NE	.....	.....	2	.....	2	.....	.....	2	NE	D. clouds.....	A. de Souza Roza, 2nd L't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, S. 2° 00′, E. 8° 16′	.....	.....	29.87	758.7	82.2	27.9	.....	NNW	.....	.....	4	.....	10	.....	.....	2	.....	Overcast, 3 hr's rain-fall.	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	29.93	760.1	67.1	19.5	.....	NNE	.....	.....	2	.....	10	.....	NNE	1	.....	Raining, 6 hr's rain-fall.	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Archangel	30.75	781.0	30.77	781.5	— 8.0	—22.2	78	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.23	767.9	30.15	765.8	— 5.1	—20.6	73	NE	9	4	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.55	750.6	30.09	764.3	12.7	—10.7	95	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	30.40	772.2	30.67	779.1	4.1	—15.5	67	E	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.27	743.5	30.38	771.6	—11.2	—24.0	80	NNE	4	2	.....	7c	.....	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.10	764.4	30.40	772.2	— 4.2	—20.1	68	NNE	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.28	769.2	30.30	769.7	— 5.1	—20.6	79	NE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.80	756.9	30.54	775.7	—10.3	—23.5	74	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.83	757.6	30.37	771.5	—10.3	—23.5	59	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.10	764.5	30.34	770.5	—10.8	—23.8	48	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	30.06	763.5	30.69	779.4	0	—17.8	56	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.04	712.1	30.74	780.7	—21.8	—29.9	78	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.37	771.3	30.44	773.1	— 5.3	—20.7	65	NE	18	8	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.72	754.8	29.97	761.1	22.6	— 5.2	78	NNE	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.74	780.9	30.76	781.3	3.7	—15.7	62	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.30	718.8	29.94	760.5	31.6	— 0.2	71	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.36	720.4	29.84	757.8	33.4	0.8	87	NE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.65	753.1	30.11	764.8	13.6	—10.2	63	ESE	27	12	.....	.....	10ks	.....	.....	.....	.....	Solar corona	Astronomical Obs.
Wilna	30.06	763.4	30.53	775.4	5.2	—14.9	75	SSE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.15	765.7	30.48	774.3	—19.3	—28.5	72	WNW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Barcelona, Met. Obs'y	29.86	758.4	29.97	761.1	61.3	16 3	42	WNW	6.6	2.94	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.7	29.97	761.1	62.2	16.8	46	W	7.8	3.55	.....	3	2	NW	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.6	.....	.....	45.5	7.5	78	SW	9.4	4.31	.....	.....	10	.....	.....	0.079	2.0	Covered.	Domingo Martiny Perez.
Madrid, Royal Observatory	27.90	708.6	30 19	766.8	51.1	10.6	78	SW	9.7	4.34	.....	0	4	.....	.....	0.020	0.5	Clouds.....	The Staff.
Murcia, Met. Obs'y	30.02	762.4	30.17	766.2	68.0	20.0	45	NW	2.2	1.00	.....	3	3	SE	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.0	29.87	758.8	54.1	12.3	84	SW	32.2	14.4	.....	.....	10	.....	.....	0.535	13.6	Raining....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.16	765.9	30.22	767.6	69.9	21.1	86	Calm	0	0	.....	0	s	.....	.....	0.160	3.8	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.81	757.1	29.85	758.4	81.1	27.3	72	E	7.3	3.3	.....	.....	.....	.....	.....	0	0	Fair.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.19	766.9	30.29	769.4	61.3	16.3	70	SW	5.2	2.3	.....	0	5	.....	SW	0.106	2.7	.....	Capt. C. Pulazos, R. N., Dir.
San Juan de Porto Rico, W. I.	30.07	763.7	30.16	766.0	71.6	22.0	92	E	6.2	2.78	.....	3kcn	4kn	E	E	0.157	4.00	Cloudy.....	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.33	770.4	30.37	771.4	1.4	—17.0	.....	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.24	768.2	30.30	769.5	19.0	— 7.2	95	S	.....	.....	7	.....	10	.....	.....	0.083	2.1	.....	
Hernosand	30.15	765.8	30.20	767.1	24.4	— 4.2	81	SSE	.....	.....	7	.....	10	.....	.....	0.020	0.5	.....	
Stockholm	30.04	763.0	30.22	767.5	21.7	— 5.7	70	SSE	.....	.....	7	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.97	761.3	30.03	762.8	20.8	— 6.2	84	SSE	.....	.....	8	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.08	763.9	30.16	766.1	21.9	— 5.6	77	SE	20.6	9.2	.....	.....	10	.....	.....	0.067	1.70	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 24° 47', W. 84° 47'	.....	.....	30.19‡	766.9‡	74.1	23.4	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.46	722.8	29.59	759.3	50.7	10.4	58	SSW	.....	.....	3	.....	9	.....	.....	0.413	10.5	Covered	The Observatory.
Zurich	28.22	716.9	29.90	759.5	42.6	5.9	83	SE	.....	.....	2	.....	7	.....	.....	0.008	0.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.3 mm.; Thermometer, +6.5 Cent. Relative Humidity, —13 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.03	762.7	40.5	4.7	76	ENE	10	4.5	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.89	759.3	59.7	15.4	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.86	758.4	60.1	15.6	.82	W	.....	.....	1	.....	7n	.....	W	0.35	8.9	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.10	764.5	30.11	764.8	20	— 6.7	.....	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.11	764.8	30.18	766.6	26.4	— 3.1	88	S	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.21	767.3	30.25	768.3	32.5	0.3	87	S	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.66	753.4	29.85	758.2	46.6	8.1	66	SW	.....	.....	1	2ck	8s	SW	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.99	761.7	30.17	766.3	20.5	— 6.4	.....	E	.....	.....	2	0	5ks	.....	.....	Inap.	Inap.	Fair	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	25.9	— 3.4	94	NE	3	1.3	.....	5k	5s	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.12	765.0	30.19	766.8	35.0	1.7	82	S	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	29.40	746.7	30.38	771.6	—20.4	—29.1	100	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.65	727.7	29.76	755.9	43.0	6.1	100	Calm	.....	.....	0	.....	10n	.....	.....	0.31	7.9	Raining	James Grant.
Halifax, N. S	30.19	766.8	30.33	770.4	36.0	2.2	90	SW	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.40	746.7	29.76	755.9	52.7	11.5	75	SE	.....	.....	3	10cs	0	SE	.....	0.10	2.5	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.52	749.8	29.86	758.4	43.1	6.2	76	SW	13	5.8	.....	10cs	0	.....	.....	0.07	1.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.29	769.4	30.33	770.4	28.2	— 2.1	88	S	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.72	754.9	29.93	760.2	40.5	4.7	82	S	24	10.7	.....	.....	10s	.....	.....	0.25	6.3	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nerson.
Norwood, Ontario	29.06	758.1	29.76	755.9	42.5	5.8	80	S	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.96	735.6	29.66	753.4	41.0	5.0	100	W	12	5.4	.....	.....	10n	.....	.....	0.53	13.5	Light rain	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.79	756.7	42.7	5.9	92	Calm	.....	.....	0	.....	10s	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.08	738.6	29.78	756.4	41.9	5.5	88	SW	14	6.3	.....	.....	10n	.....	.....	0.01	0.3	Threatening	H. Morgan.
Port Stanley, Ontario	29.16	740.7	29.82	757.4	43.1	6.2	91	W	15	6.7	.....	.....	10n	.....	.....	0.07	1.8	Light rain	M. Payne.
Quebec, Quebec	29.68	753.9	30.01	762.2	30.6	— 1.1	94	NE	.....	.....	1	.....	10n	.....	.....	0.02	0.5	Light rain	Capt. Ashe, R. N.
Rockliffe, Ontario	29.20	741.7	29.66	753.4	40.0	4.4	81	E	3	1.3	.....	.....	8s	.....	.....	0	0	Threatening	W. H. McIntyre.
St. John, N. B	30.06	763.5	30.23	767.8	36	2.2	95	S	9	4.0	.....	.....	10s	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.02	737.1	29.74	755.4	43.1	6.2	92	SW	11	4.9	.....	.....	10ks	.....	.....	0.30	7.6	Fair	Mrs. K. Stewart.
Stratford, Ontario	28.48	723.4	29.77	756.1	42.0	5.6	93	SW	5	2.2	.....	.....	10s	.....	.....	0.28	7.1	Heavy rain	C. J. MacGregor, M. A.
Sydney, C. B	30.34	770.6	30.30	771.9	19.7	— 6.8	80	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.39	746.5	29.77	756.1	44.5	6.9	84	S	15	6.7	.....	.....	10ks	.....	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	30.16	766.1	30.26	768.6	32.5	0.3	100	S	3	1.3	.....	.....	10n	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	28.71	729.2	29.78	756.4	46.2	7.9	92	SW	18	8.0	.....	.....	10n	.....	W	0.22	5.6	Overcast	Professor Wolverton.
Yarmouth, N. S	30.24	768.1	30.31	769.9	39.5	4.2	90	SW	9	4.0	.....	8ck;os	0	W	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.03	762.7	30.30	769.6	14	—10.0	82	NW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.28	769.1	20.1	— 6.6	.....	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.91	759.7	30.14	765.5	46	7.8	77	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Alpena, Michigan	29.10	739.1	29.76	755.9	30	— 1.1	89	NW	15	6.7	.....	.....	10s	.....	NW	0.20	5.1	Cloudy.....	
Aska, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.08	738.6	30.23	767.8	57	13.9	75	SE	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atlantic City, New Jersey	30.31	769.9	30.32	770.1	47	8.3	92	S	16	7.2	.....	5c	5s	Calm	Calm	0	0	Cloudy.....	
Augusta, Georgia	30.15	765.8	30.35	770.9	56	13.3	81	Calm	0	0	.....	5cs	0	SW	.....	0	0	Fair.....	
Baltimore, Maryland	30.23	767.8	30.28	769.1	52	11.1	79	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Barnegat, New Jersey	30.28	769.1	30.30	769.6	45	7.2	92	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy.....	
Bismarck, Dakota	28.51	724.1	29.37	771.4	—10	—23.3	100	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Boerne, Texas	28.70	729.0	30.04	763.0	51	10.6	79	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy.....	
Boise City, Idaho	27.15	689.6	30.11	764.8	29	— 1.7	78	SE	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boston, Massachusetts	30.12	765.0	30.28	769.1	46	7.8	84	SW	12	5.4	.....	0	8ks	.....	Calm	0	0	Fair.....	
Brackettville, Texas	28.93	734.8	29.99	761.7	57	13.9	87	E	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy.....	
Breckenridge, Minnesota	29.28	743.7	30.44	773.2	— 9	—22.8	100	NW	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	29.96	761.0	30.00	762.0	69	20.6	90	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Buffalo, New York	29.09	738.9	29.78	756.4	52	11.1	54	S	15	6.7	.....	.....	10s	.....	SW	0.04	1.0	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.74	755.4	30.03	762.7	44	6.7	78	S	24	10.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cairo, Illinois	29.80	756.9	30.21	767.3	39	3.9	82	N	18	8.0	.....	.....	10n	.....	N	0.82	20.8	Light rain...	
Campo, California	27.49	698.2	30.06	763.5	22	— 5.6	72	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.39	771.9	30.40	772.1	61	16.1	82	W	7	3.1	.....	0	8s	.....	SW	0	0	Cloudy.....	
Cape Henry, Virginia	30.35	770.9	30.37	771.4	55	12.8	81	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.36	771.1	30.38	771.9	61	16.1	82	S	9	4.0	.....	8ck	0	SW	.....	0	0	Cloudy.....	
Cape May, New Jersey	30.28	769.1	30.31	769.9	50	10.0	79	S	24	10.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
Castroville, Texas	29.26	743.2	29.95	760.7	63	17.2	94	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
Cedar Keys, Florida	30.27	768.8	30.30	769.6	65	18.3	89	E	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.30	769.6	30.35	770 9	57	13.9	87	S	4	1.8	.....	0	5s	.....	S	0	0	Fair.....	
Charlotte, North Carolina	29.43	747.5	30.26	768.6	53	11.7	86	SW	2	0.9	.....	10cs	Sm'e	W	Calm	0	0	Cloudy.....	
Chattanooga, Tennessee	29.36	745.7	30.16	766.1	58	14.4	82	S	12	5.4	.....	.....	10ks	.....	S	0	0	Threatening	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	3	—16.1	73	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.32	744.7	30.03	762.7	31	— 0.6	58	W	12	5.4	.....	.....	10s	.....	W	1.17	29.7	Cloudy.....	
Cincinnati, Ohio	29.33	745.0	29.97	761.2	53	11.7	86	NW	5	2.2	.....	.....	10n	.....	SW	0.18	4.6	Light rain...	
Cleveland, Ohio	29.15	740.4	29.88	758.9	42	5.6	95	W	17	7.6	.....	.....	10n	.....	Calm	0.13	3.3	Heavy rain.	
Coleman City, Texas	28.50	723.9	30.26	768.6	33	0.6	61	N	32	14.3	.....	5cs	0	Calm	.....	0	0	Fair.....	
Columbus, Ohio	29.03	737.3	29.85	758.2	58	14.4	64	SW	16	7.2	.....	.....	10ks	.....	NW	0	0	Threatening	
Concho, Texas	28.36	720.3	30.13	765.3	36	2.2	71	NE	.....	.....	2	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.70	754.4	30.18	766.6	47	8.3	70	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.60	751.8	30.29	769.4	19	— 7.2	69	NW	16	7.2	.....	0	0	.....	.....	0.10	2.5	Clear.....	
Dayton, Washington T'y	.....	.....	.....	.....	33	0.6	61	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy.....	
Deadwood, Dakota	25.46	646.7	.....	.....	18	— 7.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	29.21	741.9	30.46	773.7	40	4.4	65	N	12	5.4	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Delaware Breakwater, Del.	30.31	769.9	30.34	770.6	51	10.6	79	S	22	9.8	.....	2k	5s	W	Calm	0	0	Fair.....	
Denison, Texas	29.48	748.8	30.32	770.1	37	2.8	63	N	14	6.3	.....	10cs	0	SW	.....	Inap.	Inap.	Cloudy.....	
Denver, Colorado	24.90	632.4	30.12	765.0	2	—16.7	57	SW	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Des Moines, Iowa	29.45	748.0	30.41	772.4	15	— 9.4	65	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Detroit, Michigan	29.09	738.9	29.75	755.6	44	6.7	84	SW	8	3.6	.....	.....	10s	.....	SW	0.25	6.3	Cloudy.....	
Dodge City, Kansas	27.73	704.3	30.27	768.8	12	—11.1	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.53	750.0	30.31	769.9	11	—11.7	60	NW	14	6.3	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Duluth, Minnesota	29.43	747.5	30.20	767.1	— 6	—21.1	61	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Eagle Pass, Texas	29.50	749.3	30.25	768.3	58	14.4	64	W	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy.....	
Eastport, Maine	30.12	765.0	30.19	766.8	38	3.3	91	SW	10	4.5	.....	.....	10sHz	.....	W;Calm	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.04	737.6	29.74	755.4	55	12.8	56	S	24	10.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Escanaba, Michigan	29.21	741.9	29.90	759.4	22	— 5.6	72	W	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Florence, Arizona	28.62	726.9	30.22	767.6	32	0.0	89	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Fort Apache, New Mexico	.....	.....	.....	.....	29	— 1.7	59	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.30	718.8	30.48	774.2	—20	—28.9	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Custer, Montana	26.96	684.8	.....	.....	— 9	—22.8	56	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.33	643.4	30.29	769.4	42	5.6	19	N	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Gibson, Indian Ter.	29.81	757.2	30.38	771.6	31	— 0.6	69	N	16	7.2	.....	0	0	.....	.....	0.20	5.1	Clear.....	
Fort Grant, Arizona	25.23	641.6	30.06	763.5	32	0.0	59	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	29.06	738.1	30.40	772.1	36	2.2	39	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Keogh, Montana	27.52	699.0	.....	.....	—12	—24.4	49	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Fort McKavett, Texas	27.97	710.4	29.98	761.5	35	1.7	53	NE	20	8.9	.....	4c	1s	Calm	NE	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.13	739.9	30.33	770.4	29	— 1.7	56	N	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	25	— 3.9	50	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.43	722.1	30.05	763.3	41	5.0	65	N	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.05	763.3	30.09	764.3	64	17.8	94		6	2.7	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog....	
Grand Haven, Michigan	29.26	743.2	29.92	760.0	32	0.0	89	NW	24	10.7	.....	.....	10s	.....	W	0.15	3.8	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.36	745.7	30.36	771.1	32	0.0	89	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
Indianapolis, Indiana	29.17	740.9	29.96	761.0	37	2.8	90	NW	16	7.2	.....	.....	10n	.....	Calm	0.60	15.2	Light rain...	
Indianola, Texas	30.06	763 5	30.09	764.3	66	18.9	95	SE	4	1.8	.....	.....	10s	.....	SE	Inap.	Inap.	Light rain..	
Jacksboro, Texas	29.11	739.4	30.30	769.6	37	2.8	81	N	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Jacksonville, Florida	30.31	769.9	30.33	770.4	66	18.9	84	SE	1	0.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy.....	
Keokuk, Iowa	29.60	751 8	30.26	768.6	25	— 3.9	75	NW	9	4.0	.....	0	1s	.....	Calm	0.12	3.0	Clear.....	
Key West, Florida	30.20	767.1	30.23	767.8	73	22.8	81	E	9	4.0	.....	0.	0	.....	.....	Inap.	Inap.	Clear.....	
Kittyhawk, North Carolina	30.39	771.9	30.42	772.7	51	10.6	93	S	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Knoxville, Tennessee	29.14	740.1	30.13	765.3	62	16.7	61	SW	22	9.8	.....	.....	10ks	.....	SW	0	0	Threatening	
La Crosse, Wisconsin	29.48	748.8	30.30	769.6	8	—13.3	78	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
La Mesilla, New Mexico	26.22	666.0	30.37	771.4	30	— 1.1	57	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair.....	
Laredo, Texas	29.79	756.7	30.14	765.5	56	13.3	81	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	29.53	750.0	30.45	773.4	22	— 5.6	72	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Lewiston, Idaho	.....	.....	.....	.....	24	— 4.4	88	W	2	0.9	.....	10k	0	Calm	.....	0	0	Cloudy.....	
Little Rock, Arkansas	29.86	758.4	30.23	767 8	47	8.3	77	N	18	8.0	.....	.....	10n	.....	.....	0.40	10.2	Light rain...	
Los Angeles, California	29.84	757.9	30.20	767.1	37.0	2.8	71	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.38	746.2	29.93	760.2	54	12.2	87	W	3	1.3	.....	.....	10n	.....	W	0.35	8.9	Light rain...	
Lynchburg, Virginia	29.61	752.1	30.30	769.6	51	10.6	80	W	1	0.4	.....	.....	10s	.....	SW	0	0	Threatening	
Madison, Wisconsin	29.07	738.4	30.13	765.3	15	— 9.4	65	W	22	9.8	.....	0	0	.....	.....	0.03	0.7	Clear.....	
Marquette, Michigan	29.18	741.1	29.93	760.2	13	—10.6	81	W	13	5.8	.....	.....	10s	.....	W	0.01	0.3	Cloudy.....	
Mason, Texas	28.52	724.4	30.34	770 6	42	5.6	50	NW	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Memphis, Tennessee	29.72	754.9	30.06	763.5	53	11.7	100	NW	15	6.7	.....	.....	10n	.....	NW	0.38	9.7	Light rain...	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.26	743.2	30.04	763.0	22	— 5.6	72	NW	27	12.1	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Mobile, Alabama	30.19	766.8	30.23	767.8	60	15.6	97	Calm	0	0	.....	5k	5s	W	Calm	0	0	Cloudy	
Montgomery, Alabama	30.02	762.5	30.25	768.3	60	15.6	88	SE	11	4.9	.....	8k	0	SW	.....	0	0	Fair	
Morgantown, West Virginia	29.03	737.3	29.99	761.7	61	16.1	50	SW	12	5.4	.....	2k	8ks	SW	SW	0	0	Cloudy	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	32	0.0	89	W	42	18.8	.....	.....	10s	.....	W	0	0	Cloudy	
Nashville, Tennessee	29.53	750.0	30.06	763.5	58	14.4	88	SE	6	2.7	.....	.....	10n	.....	Calm	0.08	2.0	Light rain.	
New Haven, Connecticut	30.21	767.3	30.33	770.4	45	7.2	100	S	7	3.1	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
New London, Connecticut	30.28	769.1	30.38	770.4	43	6.1	87	SW	2	0.9	.....	8cs	Sm'e	W	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	63	17.2	88	SE	7	3.1	.....	2ck	Haze	S	Calm	0	0	Cloudy	
Newport, Rhode Island	30.27	768.8	30.32	770.1	46	7.8	84	S	4	1.8	.....	5cs	Sm'e	Calm	.....	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	59	15.0	87	SE	.....	.....	1	2c	5s	Calm	SE	.....	.....	Cloudy	
New York, New York	30.11	764.8	30.29	769.4	49	9.4	93	S	10	4.5	.....	5ck	5s	S	Calm	0	0	Cloudy	
Norfolk, Virginia	30.31	769.9	30.37	771.4	54	12.2	87	S	8	3.6	.....	0	10s	.....	Calm	Inap.	Inap.	Cloudy	
North Platte, Nebraska	27.38	695.4	30.27	768.8	5	—15.0	75	NW	9	4.0	.....	.....	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.54	750.3	29.58	751.3	35.0	1.7	95	S	2	0.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Omaha, Nebraska	29.23	742.4	30.45	773.4	11	—11.7	80	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.62	752.3	29.94	760.5	50	10.0	65	S	12	5.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Pembina, Dakota	29.35	745.5	30.33	770.4	—21	—29.4	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.24	768.1	30.27	768.8	65	18.3	94	SE	1	0.4	.....	4k	9ks	S	S	0	0	Cloudy	
Philadelphia, Pennsylvania	30.21	767.3	30.27	768.8	52	11.1	73	S	20	8.9	.....	10cs	0	W	.....	0	0	Cloudy	
Phœnix, Arizona	29.06	738.1	30.07	766.6	38	3.3	63	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.47	443.7	29.68	753.9	— 4	—20.0	65	W	44	19.7	.....	0	0	.....	.....	0.13	3.3	Clear	
Pilot Point, Texas	29.62	752.3	30.50	774.7	40	4.4	73	N	8	3.6	.....	.....	10s	....	N	0	0	Cloudy	
Ploche, Nevada	24.01	609.8	29.78	756.4	15	— 9.4	48	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.14	740.1	29.93	760.2	57	13.9	63	SW	8	3.6	.....	2c	5s	Calm	W	0	0	Fair	
Port Huron, Michigan	29.07	738.4	29.73	755.1	43	6.1	92	SW	9	4.0	.....	.....	10s	.....	SW	0.16	4.1	Cloudy	
Portland, Maine	30.19	766.8	30.24	768.1	41	5.0	82	SW	10	4.5	.....	0	5s	.....	Calm	0	0	Fair	
Portland, Oregon	29.55	750.6	29.62	752.3	36.5	2.5	90	S	9	4.0	.....	.....	10n	.....	S	0.78	19.8	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	80	S	11	4.9	.....	8k	0	Calm	.....	0	0	Cloudy	
Prescott, Arizona	24.81	630.2	30.17	766.3	14	—10.0	82	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.25	768.3	30.27	768.8	66	18.9	89	NE	7	3.1	.....	0	0	.....	.....	0.23	5.8	Clear	
Red Bluff, California	29.70	754.4	30.08	764.0	41	5.0	65	SE	25	11.2	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.24	742.7	29.84	757.9	53	11.7	54	S	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Roseburg, Oregon	29.11	739.4	29.68	753.9	38	3.3	81	S	3	1.3	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Sacramento, California	30.06	763.5	30.14	765.5	40	4.4	73	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	29.63	752.6	30.24	768.1	28	— 2.2	88	NW	20	8.9	.....	0	8ks	.....	W	0.67	17.0	Fair	
St. Paul, Minnesota	29.34	745.2	30.27	768.8	2	—16.7	73	W	15	6.7	.....	0	2ks	.....	W	0	0	Clear	
Salt Lake City, Utah	25.74	653.8	30.07	763.8	12	—11.1	61	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.40	746.7	29.98	761.5	65	18.3	89	E	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.13	765.3	30.21	767.3	40	4.4	82	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.16	740.7	29.83	757.7	44	6.7	84	S	20	8.9	.....	.....	10n	.....	NW	0.35	8.9	Light rain	
Sandy Hook, New Jersey	30.24	768.1	30.27	768.8	51	10.6	79	SW	21	9.4	.....	.....	10s	.....	W	0	0	Cloudy	
San Francisco, California	30.08	764.0	30.15	765.8	44	6.7	68	S	6	2.7	.....	.....	9s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	13	—10.6	44	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.27	768.8	30.36	771.1	58	14.4	88	E	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Shreveport, Louisiana	29.88	758.9	30.10	764.5	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.35	770.9	30.36	771.6	60	15.6	88	S	7	3.1	.....	5k	2ks	Calm	Calm	0	0	Cloudy	
Socorro, New Mexico	25.54	648.7	29.61	752.1	22	— 5.6	58	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.54	750.3	30.26	768.6	25	— 3.9	69	NW	17	7.6	.....	0	1s	.....	NW	0.95	24.1	Clear	
Springfield, Massachusetts	30.13	765.3	30.26	768.6	44	6.7	84	S	5	2.2	.....	8cs	0	SW	.....	0	0	Cloudy	
Stockton, Texas	27.16	689.8	30.16	766.1	40	4.4	19	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.17	766.3	30.22	767.6	41	5.0	91	W	18	8.0	.....	10cs	0	W	.....	0	0	Cloudy	
Toledo, Ohio	29.10	739.1	29.77	756.1	48	8.9	85	S	10	4.5	.....	.....	10ks	.....	SW	0.28	7.1	Clearing	
Tucson, Arizona	27.64	702.0	30.19	766.8	34	1.1	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.46	748.3	29.96	761.0	33.5	0.8	95	E	10	4.5	.....	.....	10n	.....	.....	0.15	3.8	Light snow.	
Uvalde, Texas	29.18	741.1	29.98	761.5	64	17.8	89	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Vicksburg, Mississippi	29.89	759.2	30.15	765.8	61	16.1	100	S	8	3.6	.....	.....	10s	.....	SW	0.67	17.0	Cloudy	
Virginia City, Montana	24.17	613.9	29.65	753.1	— 1	—18.3	37	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.80	756.9	30.19	766.8	37.5	3.1	77	SE	3	1.3	.....	0	8s	.....	Calm	0	0	Fair	
Washington, D. C.	30.16	766.1	30.28	769.1	51	10.6	76	S	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	26	— 3.3	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.28	769.1	30.36	771.1	58	14.4	88	SE	3	1.3	.....	8cs	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.58	649.7	29.94	760.5	18	— 7.8	84	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	30.19	766.8	30.23	767.8	48	8.9	85	S	16	7.2	.....	Haze	0	.....	.....	0	0	Hazy	
Yankton, Dakota	29.11	739.4	30.50	777.0	6	—14.4	76	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.03	762.7	30.18	766.6	42	5.6	50	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	22.02	559.3	.....	.....	55.5	13.1	77	Calm	.....	.....	0	8cs;k	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	74	23.3	70	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Cloudy	James Gall.
Navassa, W. I.	30.02	762.5	30.10	764.5	77	25.0	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	77	25.0	91	E	.....	.....	2	5k	8ks	E	.....	0.170	4.32	¼ cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.45	748.0	30.00	762.0	79	26.1	86	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.28	769.1	30.34	770.6	—32.0	—35.6	.....	N	14	6.3	.....	0	d	.....	.....	0	0	.....	J. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,209 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.8 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.83 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.25‡	768.3‡			66	18.9	89	SW	2	0.9			10		SW	0	0			Threatening	
Navy Yard, Portsmouth, N.H	30.17‡	766.3‡			42	5.6	83	SW	4	1.8			8							Overcast	
Naval Hospital, Yokohama, Japan	30.30‡	769.6‡			45	7.2	76	ENE			1		10s		W	0	0			Overcast	
Adams, Mazatlan, Mexico	30.06‡	763.5‡			68	20.0	84	NNW			3		8		NNW			Smooth	SE	Cloudy	
Colorado, New York, N. Y.	30.20‡	767.1‡			51	10.6			2	0.9			2?			0	0			Cloudy	
Constitution, As inwall, Panama	29.98‡	761.5‡			78	25.6	86	NNE			6		2		NNE			Long	NNE	Clear	
Enterprise. Villafranca, France	29.76‡	755.9‡			60	15 6	88	Calm			0		1		E			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.42‡	772.7‡			55	12.8	81	S	7.2	3.2			8		SSW	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.13‡	765.3‡			44	6.7	92	ESE	4.8	2.1			4		ESE	0	0			Cloudy	
Kearsarge, Shephard's Harbor, Chiriqui	30.04‡	763.0‡			73	22.8	90	WSW			1		5		SW			Smooth		Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	29.93‡	760.2‡			46	7.8	92	S			1		8		S					Cloudy	
Marion, S. 35° 58′, W. 54° 40′	30.20‡	767.1‡			67	19.4	95	NNE			3		10		N;E	0	0	Smooth		Cloudy	
Michigan, Erie, Pa.	29.79‡	756.7‡			54	12.2	87	S			5		10		SW					Cloudy	
Monocacy, Shanghai, China	30.07‡	763.8‡			44	6.7	92	NE			3		10		Calm					Raining	
New Hampshire, Port Royal, S. C.	30.36‡	771.1‡			58	14.4	88	Calm	0	0			1?		Calm	0	0			Cloudy?	
Nipsic. St. Thomas, W. I.	30.17‡	766.3‡			76	24.4	86	ENE			3		2		ENE					D. clouds	
Onward, Callao, Peru †	29.93‡	760.2‡			71	21.7	90	SE			3		2					Long	W	Fair	
Palos, Tientsin, China	30.40‡	772.1‡			36	2.2	80	WSW			1		8							Cloudy	
Pensacola, Payta, Peru *	29.94‡	760.5‡			76	24.4	86	Calm			0		5					Smooth		Hazy	
Powhatan, Norfolk, Va.	30.39‡	771.9‡			55	12.8	74	SSE			1		10							Cloudy	
Quinnebaug, Leghorn, Italy	29.74‡	755.4‡			55	12.8	81	WSW			4		0?							Raining?	
Richmond, Hong-Kong, China	29.87‡	758.7‡			62	16.7	100	E			2		10			0	0	Smooth		Overcast	
Rio Bravo, Brownsville, Texas †	30.14‡	765.5‡			69	20.6	95	SE	3	1.3			10		SE	0	0			Cloudy	
Santee. Annapolis, Md	30.30‡	769.6‡			48	8.9	70	SSW			2		10		W	0	0			Cloudy	
Shenandoah, Montevideo, Uruguay	30.05‡	763.3‡			72	22.2	76	N			1		5		N			Smooth		Fair	
St. Louis, League Island, Pa.	30.26‡	768.6‡			48	8.9	70	SW	20	8.9			10			0	0			Cloudy	
Swatara, Gibraltar, Mediterranean	30.26‡	768.6‡			63	17.2	83	SSW			4		2		SSW			Smooth		Clear	
Tennessee, Norfolk, Va.	30.44‡	773.2‡			55	12.8	80	SSE	10	4.5			8		S;W	0	0	Smooth		Cloudy	
Trenton, Toulon, France	29.86‡	758.4‡			59	15.0	63	NW			5		5			3 h'rs	3 h'rs			Clear	
Tuscarora, Champerico, Guatemala	30.00‡	762.0‡			76	24.4	91	N			1		2		N	0	0	Long	S	Clear	
Wabash, Boston, Mass.	30.29‡	769.4‡			48	8.9	85	SW	8	3.6			10			0	0			Cloudy	
Wachusett, Montevideo, Uruguay †	30.62‡	777.7‡			71	21.7	75	NNE			3		10		N			Smooth	N	Overcast	
Wyoming, Naples, Italy	29.89‡	759.2‡			56	13.3	63	SW			1		10		SW			Smooth	SW	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 43° 53′, W. 53° 52′...†	30.33‡	770.4‡	28	— 2.2		NW			8		1		NW			Heavy	NW	Clear	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 43° 10′, W. 39° 68′	29.05‡	737.9‡				N			6		5		SW;N			Turbulent.	W;N	Showery	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	29.27‡	743.4‡	54	12.2	87	W			6		5		W	0	0			Cloudy.	
S. S. Ohio, Henry Morrison. Philadelphia, Pa.*						SW			4		8		SW	0	0			Cloudy	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger. N. 24° 38′, W. 112° 07′...†	30.32‡	770.1‡				NNW			9		2		NW					Clear	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undutsch.
S. S. Leipzig, F. Pfeiffer, N. 49° 02′, W. 22° 40′	28.68‡	728.51	51.5	10.8	83	W			6		8		W	2 h'rs	2 h'rs	Heavy	W	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China...†	29.91‡	759.7‡	63	17.2	94	NE			2		10		NE					Drizzling	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal...†	‡29.98	761.5‡				SE			5-6		8		SE	Considerable		Smooth		Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander... Santa Barbara, Cal...†	30.18†	766.6‡	49	9.4		Calm			0		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 13° 08', W. 88° 10'....†	29.97‡	761.2‡	77	25.0	93	E			4		2		E	0	0	Mod'ate	SE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd.†	29.57‡	751.1‡	32	0.0	.....	Calm	.....	.....	0	.....	5*	.....	NW	.....	.....	.....	.....	Fair.....	E. Polemann.
S. S. City of Panama, M. Connolly, La Libertad, San Salvador†	30.06‡	763.5‡	84	28.9	.....	NE	.....	.....	1	.....	8?	.....	NE	0	0	Smooth	S	Clear?.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Zealandia, R. C. Ghest. N. 35° 36', W. 128° 39'...†	30.00‡	762.0‡	.....	.....	.....	NNW	.....	.....	5	.....	.....	.....	NW	.....	.....	Mod'ate	Confused	Squally	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Farmer & W. Apetan.
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NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Adale Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 42° 10', E. 116° 04'.....*	30.08‡	764.0‡	59	15.0	.....	NW	.....	.....	5	.....	10	.....	NW	.....	.....	Mod'ate	WSW	Fair.....	B. F. Woodbury.
Brigantine George, W. H. Champlin.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Cross, W. Randall, N. 24° 42', W. 20° 32'.....	30.17‡	766.3‡	69	20.6	82	E	.....	.....	3	.....	4	.....	E	0	.....	Long	NW	D. clouds....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

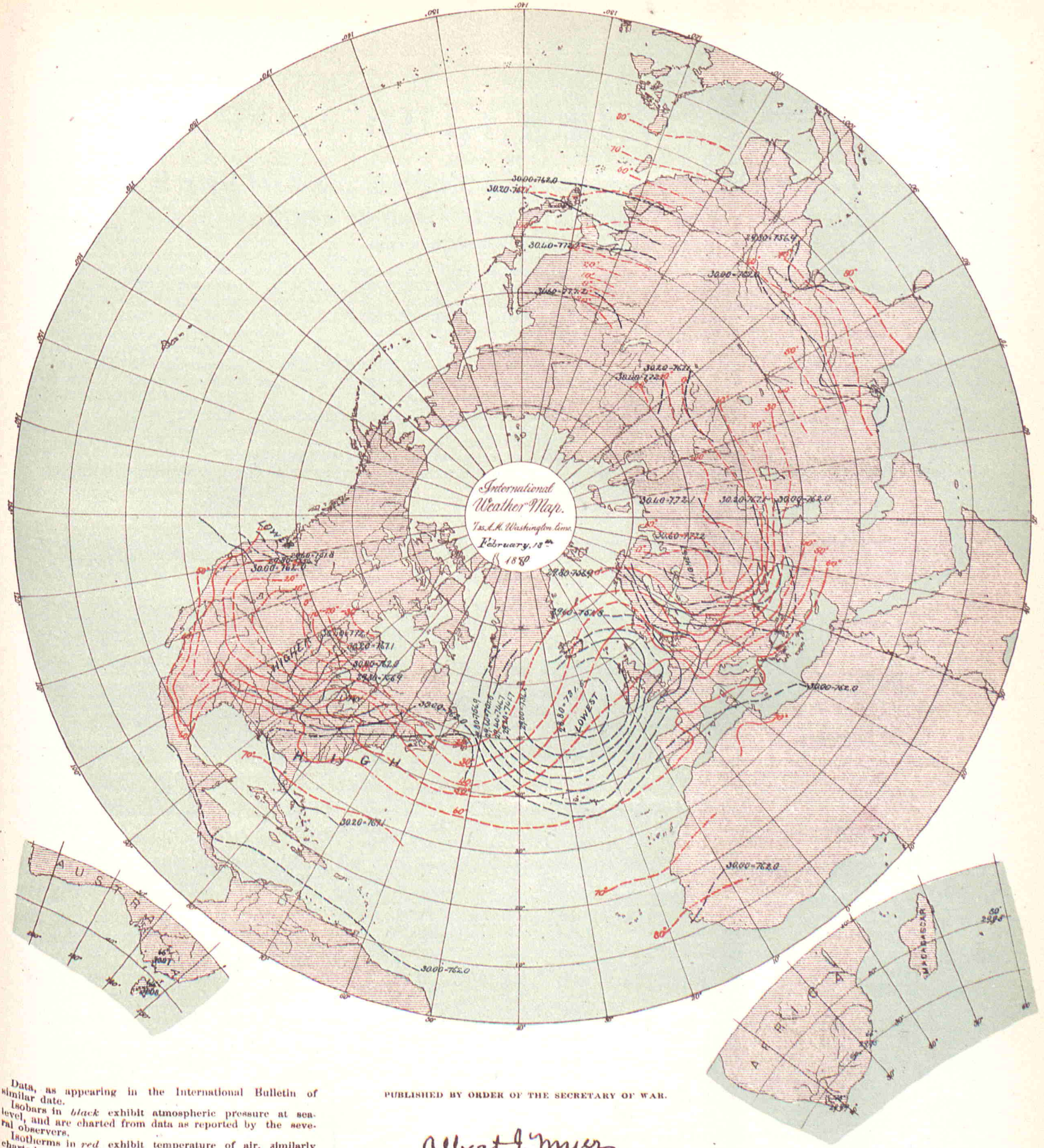
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 19, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.26	768.6				W			1		0			0	0	Clear	
Nemours			30.19	766.9	65.1	18.4	84	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30.20	767.0	62.6	17.0	61	SSE			2		0			0	0	Clear	Tourilliere.
La Calle			30.17	766.4	63.1	17.8	59	NNW			4		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques
Sfax			30.07	763.7															Gau
Saida			30.21	767.2															Herbin.
Tebessa			30.28	769.1	55.4	13.0	38	WNW			2		0			0	0	Clear.	Watrin.
Geriville																			Brugnlaux.
Laghouat			30.30	769.7	64.8	18.2	21	SSW			1		0			0	0	Clear	Bertrand.
Biskra			30.24	768.1	67.6	19.8	50	WNW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.68	750.0	30.10	766.4	43.2	6.2	84	W			3	10				0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.8	30.16	766.0	17.6	— 8.0	85	ENE	8.9	4.0		9				0.028	0.7		Dr. Wierzbicki.
Eperies	29.23	742.5	30.16	766.1	30.2	— 1.0	86	Calm			0	10				0.808	22.05		Julius Mikolik.
Gratz	28.88	732.2	30.13	765.2	35.4	1.9	87	Calm			0	10				0.059	1.5		Andreas Rospini.
Hermannstadt	28.72	729.4	30.24	768.0	27.1	— 2.7	79	SSE			5	10				0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.63	727.1	30.60	762.1	39.7	4.3	92	WSW			1	8				0.150	3.8		The Staff.
Lemberg	29.21	741.8	30.30	769.6	10.0	—12.2	55	SE			2	10				0	0		Dr. T. Stanecki.
Pola	29.96	760.9	30.07	763.8	46.8	9.2	84	WNW			1	3				0.228	5.8		I.R. Hydrographic Office.
Szathmar	29.80	756.9	30.30	769.6	25.0	— 3.9	93	S			3	10				0.394	10.0		Pet. Pancsics, S. J.
Szegedin	29.68	760.3	30.24	768.0	21.7	— 5.7	96	S			6	10				0	0		Karl Stancel.
Trieste	29.99	761.8	30.10	764.4	52.2	11.2	71	Calm			0	1				0	0	Almost clear	P. Busin.
Vienna	29.34	745.2	30.09	764 2	40.6	4.8	87	SE			1	10				0.091	2.3		I.R. Central Met. Ob'ry.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.35	745.4	29.54	750.4	52.3	11.3	82	SSW			6	10		SW		0.232	5.9	Light rain	Royal Observatory.
Furnes	29.45	748.1	29.48	748.7	52.3	11.4	86	WSW			6	10				0.154	3.9	Rain-storm	M. E. de Cae.
Maeseyck	29.47	748.6	29.60	751.8	53.2	11.8	82	S			8	10				0.283	7.2		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	28.73	729.7	28.83*	732.3	47.6	8.7			13	8.0			9			0.020	0.51	Gloomy	W. Boswell.
Ardrossan	28.81	731.8	28.83	732.3	47	8.3		SSW			5		7					D. clouds	G.Carrick.
Armagh, (Observatory)	28.62	726.9	28.86	733.0	49.1	9.5		SSW	23	10.3			7					Squally	S. Call.
Bidston (Liverpool Obs)			29.03	737.3	52.2	11.2		SW	37	16.5			7					D. clouds	John Hartnup.
Bolton (Sharples)	28.54	724.9	29.04	737.6	48.0	8.9		WSW	9	4.0			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	28.65	727.7	29.04	737.6	48.6	9.2	83	SW			4		7			0.14	3.6	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	30.00	762.0	30.03	762.7	77.5	25.3		NE			2		6					Gloomy	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.16	740.7	29.25	742.9	54.0	12.2		SSW			3		7					Showery	H. Todd.
Cardington			29.22	742.2	55.0	12.8		SW			6		5					D. clouds	John McLaren.
Chatham (School M. E.)	29.25	742.9	29.38	746.2	49.1	9.5		SW			2		10n					Drizzling	Lance Corp'l Hocker, R. E.
Donaghadee	28.81	731.8	28.85	732.8	53	11.7		SW			5		5					D. clouds	J. Mac Gowan.
Dover	29.38	746.2	29.41	747.0	46	7.8		WSW			6		10					Showery	J. Costello.
Falmouth (Observatory)	29.07	738.4	29.29	744.0	53.0	11.7		SSW			6		7					Misty	The Staff.
Fort Napier, Natal	27.50	698.5	29.72	754.9	72.0	22.2		NE			1		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.71	754.6	29.94	760.5	87	30.6		W			1		3k						
Galway (Queen's College)			28.77	730.7	46	7.8		SW			3		10					Showery	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.05	763.3	30.10	764.5	60.8	20.6		E			3		2					Blue sky	Corp'l S. Cordne, A.H.C
Glasgow, (Observatory)	28.63	727.2	28.83	732.3	48.5	9.2		SW			6		7					D. clouds	D. G. Maclean.
Great Yarmouth	29.27	743.4	29.27	743.4	53	11.7		WSW			5		4					Squally	G. T. Watson.
Greenwich (Royal Obs'y)	29.17	740.9	29.34	745.2	50.2	10.1		SW					10					Raining	The Staff, for G.B.Airy.
Guernsey	29.21	741.9	29.43	747.5	50	10.0		SW			6		8					Squally	Dr. S.E Hoskins, F.R.S.
Helston	29.47	748.5	29.59	751.6	55	12.8		SW			8		6k			0	0	Fair	M. P. Moyle.
Holyhead	29.85	732.8	29.00	736.6	50	10.0		SW			5		1					Blue sky	John Tilston.
Jersey	29.19	741.4	29.48	748.8	48.3	9.1		SW			7		10			Blank	Blank	Overcast	J. Fisher.
Kew (Observatory)	29.30	744.2	29.33	745.0	50.8	10.4		SSW	34	15.2			9					Threatening	The Met'g'l Office.
Leicester (Museum)	28.91	734.3	29.16	740.7	53.0	11.7		SW			3		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	61.6	16.4		NW			3		1k					Blue sky	A. King.
Nairn	28.64	727.4	28.72	729.5	50	10.0		WSW			1		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.25	768.3	73.2	22.9		SW					7					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	28.97	735.8	29.15	740.4	53.3	11.8		SSW			6		7kd		SW	0.154	3.91	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.62	726.9	29.14	740.1	48.9	9.4		SW			6		9					D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.05	737.9	29.30	744.2	50	10.0		SSW			6		10					Raining	The Staff, for E. J. Stone, Esq.
Plymouth	29.22	742.2	29.30	744.2	51.0	10.6		SW			6		10					Squally	John Merrifield.
*Roche's Point	28.88	733.5	28.96	735.6	49	9.4		WSW			6		10					Raining	Wm. Kennedy.
St. Ann's Head	28.95	735.3	29.11	739.4	49	9.4		SW			6		7					Squally	John C. Walker.
Sandwick Manse, Orkneys			28.74	730.0	45.2	7.3		S	16	7.2			2					Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.13	765.3	30.20	767.1	34.6	1.4		ENE			2		10					Gloomy	Serg't W. H. Lyne.
Sheffield	28.84	732.5	29.12	739.6	50.3	10.2		SW			4		10			0.29	7.4	Showery	W. F. Cooper.
Silloth Rectory	28.89	733.8	28.92	734.6	47.4	8.6	84	SW			6		6			0.367	9.07	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)			29.04	737.6	48.0	8.9		SSW	20	8.9			10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.12	739.6	29.33	745.0	49.7	9.8		SW			2-3		10					Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.24	742.7	29.29	744.0	55	12.8		SW			7		6					D. clouds	W. Newcombe.
Valencia Observatory)	28.85	732.8	28.88	733.5	50.3	10.2		SSW	41	18.3			10			Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.90	759.4	29.94	760.5	61.7	16.5	100	S	27	12.1		10	10k;n			0.14	3.6		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.48	647.2			67	19.4		SE				8n	8n						Robert Burnet.
Constable, Cape Colony	26.74	679.2			58	14.4		S					8						Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.97	761.2	71.0	21.7	65	SE			3		7k			0	0		Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			28.87	733.3	50.4	10.2		SW			4		10k			0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.70	754.4	29.89	759.1	78.3	25.7	72	SE	23.0	10.3			10		E	0.23	5.8	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.89	759.2	29.98	761.5	66.5	19.2	75	W	4	1.8			0			0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides			28.34	719.8	47	8.3		S			7		10			0.3	8.		
North Unst, Shetland Is			28.75	730.2				SSE			7	10	10	SSE		Blank	Blank		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 31° 44′, W. 22° 32′	7		Raining	Capt. Thos. Young.
City of Cashmere, S. 8° 20′, W. 34° 10′			D. clouds	Capt. W. M. Grieve.
S. S. German, Capetown, Cape Good Hope			Showery	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 29° 47′, E. 40° 15′			Misty	Capt. W. P. Hughes.
S. S. Strathieven				Capt. C. W. Pearson.
S. S. Sunbeam				Capt. G. M. Dobson.
S. S. Ethiopia				Capt. A. Campbell.
S. S. Decapolis				Capt. T. M. Almond.
Barque Dochra				Capt. N. Spalding.
Barque Fedalma				Capt. H. L. Fox.
H. M. S. Alert				Capt.J.P Maclear, R.N.
Barque Commewyne				Capt. Jas. Buchan.
S. S. Richmond				Capt. W. H. Stuart.
Bute Fylde				Capt. L. C. Dart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.29	667.8	30.01	762.2	60.4	15.8	81	SE	.....	.....	2	.....	2ks;d	.....	E	0	0	.....	Federico Maison

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.48	748.8	29.53	750.0	31.3	— 0.4	96	S	.....	.....	6	.....	10	.....	.....	.....	.....	Sleeting	
Farõe	29.26	743.2	29.28	743.7	40.5	4.7	100	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & fog	
Godthaab (Greenland)	29.76	756.0	29.81	757.1	10.6	—11.9	96	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.29	744.0	29.34	745.1	23.4	— 4.8	95	NE	.....	.....	8	.....	5	.....	.....	.....	.....	.....	
Thorshavn (Farõe)	28.66	727.9	28.69	728.8	41.4	5.2	86	E	.....	.....	6	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.08	738.6	29.19	741.4	37.9	3.3	100	S	.....	.....	6	.....	10	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.15	740.5	29.71	754.5	52.7	11.5	86	SW	.....	.....	6	.....	10	.....	W	0.087	2.2	Squally	Collignon, Director.
Amiens, Normal School	29.48	748.9	29.60	751.7	54.0	12.2	86	SSW	.....	.....	2	.....	8	.....	NE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.32	744.6	29.58	751.2	51.1	10.6	90	SW	.....	.....	4	.....	10	.....	W	0.138	3.5	Light rain	Klein, Commandant.
Avignon, Normal School	29.98	761.5	30.06	763.5	61.2	16.2	49	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.80	756.9	58.8	14.9	55	SW	.....	.....	2	.....	5clcu	.....	SW	0.031	0.8	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.37	745.9	29.63	752.6	54.9	12.7	76	SW	.....	.....	4	.....	10	.....	WSW	0.213	5.40	Covered	Frère Eugene Marie.
Besançon, Normal School	29.02	737.2	29.00	759.5	58.6	14.8	59	SW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cld'y	A. Carré, Director.
Bordeaux	29.67	753.6	29.87	758.6	65.1	18.4	36	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.08	738.6	29.09	761.8	55.8	13.2	62	S	.....	.....	4	. c	.....	SW	SW	0.063	1.6	.....	Marlot, Director.
Bourges, Normal School	29.33	744.9	29.84	758.0	57.6	14.2	57	S	.....	.....	3	.....	1s	.....	S	0.020	0.5	Clear	M. Gence, Director.
Brest, Naval Observatory	29.28	743.8	29.52	749.9	50.7	10.4	92	SW	.....	.....	4	.....	10	.....	SW	0.346	8.75	.....	Ch. de Rermaree, Dir.
Caen, Normal School	29.47	748.6	29.55	750.5	52.9	11.6	87	SSW	.....	.....	4	.....	10	SW	SSW	0.591	15.0	Covered	M. Bletrin, Director.
Carcassonne, N. School	29.55	750.5	29.96	760.9	60.8	16	68	E	.....	.....	2	.....	2	.....	E	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'l	29.50	749.2	29.82	757.3	60.4	15.8	83	SSW	.....	.....	4	.....	8	NE	NE	0	0	Very cloudy	Jadot, Director
Chartres, Normal School	29.10	739.0	29.65	753.2	57.2	14	91	N	.....	.....	3	.....	5	SE	NW	0	0	.....	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.56	725.3	29.88	758.9	64.4	18.0	33	WSW	.....	.....	2	2c	.....	.....	.....	0	0	.....	Alluard, Director.
Commercy, Normal School	28.93	734.7	29.77	756.2	56.3	13.5	72	WSW	.....	.....	6	5clc	.....	WSW	WSW	0.134	3.4	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.98	736.2	30.13	765.2	58.5	14.7	48	SE	.....	.....	1	.....	5	.....	SE	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.24	742.6	30.02	762.4	51.1	10.6	75	ENE	.....	.....	1	c	.....	NE	.....	0.020	0.5	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.59	751.5	29.80	756.9	55.0	12.8	86	SSW	.....	.....	3	.....	10	.....	.....	0.165	4.2	Covered	Mouillot, Director.
Le Mans, Normal School	29.41	746.9	29.71	754.7	56.3	13.5	64	SW	.....	.....	4	.....	8	WSW	.....	0.071	1.8	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.2	29.93	760.2	58.1	14.6	63	SSW	.....	.....	1	2c	.....	NNW	W	0.102	2.60	Slightly cld'y	A. Baudry, Director
Lorient, Naval Observatory	29.52	749.9	29.63	752.7	50.7	10.4	97	SSW	.....	.....	7	.....	10	.....	.....	0.512	13.0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.34	745.2	29.95	76 '8	59.4	15.2	83	S	.....	.....	1	5c	.....	W	.....	0.031	0.8	Fair	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.77	756.1	30.04	762.9	62.1	16.7	62	S	.....	.....	1	.....	6	.....	S	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.81	731.7	29.84	757.9	55.8	13.2	66	S	.....	.....	4	.....	2	.....	.....	0.654	16.6	Slightly cov.	Barbier, Director.
Mont-Louis	24 80	629.9	30.11	764.9	45.5	7.5	82	W	.....	.....	3	.....	4	.....	W	0	0	.....	M. Cave, for Dr. Fines.
Nice	30.04	763.0	30.08	763.9	56.8	13.8	80	SE	.....	.....	3	.....	5	S	S	0	0	Light mist	Capt. Boissière, Director.
Nismes, Normal School	29.87	758.6	30.07	763.8	58.6	14.8	78	SE	.....	.....	1	.....	2	.....	E	0	0	Slightly cld'y	M. Boyer, Director.
Perpignan	24.87	758.7	29.98	761.4	56.8	13.8	68	E	7.4	3.3	.....	.....	7	WNW	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.50	571.0	.....	.....	44.0	7.0	.....	.....	.....	.....	.....	.....	1	W	S	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.97	735.7	30.02	762.6	59.0	15	55	SE	.....	.....	1	c	.....	S	S	0	0	.....	M. Tailleu
Puy de Dome (Summit) Obs	25.05	636.2	.....	.....	43.2	6.2	76	SW	.....	.....	4	.....	2	WNW	SW	0.091	2.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.81	757.2	29.84	758.0	54.9	12.7	95	S	.....	.....	3	.....	0	.....	.....	0.20	5.	Clear	Lt E. Decante, Director
Rouen, Normal School	29.52	749.7	29.60	751.9	51.8	11.0	78	SW	.....	.....	6	.....	10	.....	.....	0.217	5.5	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.50	749.3	29.53	750.1	52.2	11.2	85	SW	.....	.....	4	.....	10	SW	SW	0.109	2.77	Raining	Lt. Hercouet, Director
Saint Maur (near Paris)	29.53	750.0	29.69	754.2	58.3	14.6	59	SW	.....	.....	4	.....	10	.....	WSW	0.055	1.4	Covered	E. Renou, Director.
Tarbes, Normal School	28.88	733.5	29.92	759.9	73.4	23	37	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.27	743.4	29.99	761.8	61.2	16.2	56	SSE	.....	.....	2	.....	2	.....	.....	0	0	Slightly cld'y	B. Baillaud, Dir.
Tours	29.56	750.8	29.76	755.8	59.0	15.0	60	S	.....	.....	4	.....	8	.....	WSW	0.134	3.4	¾ covered	M. de Tastes.
Versailles, Observatory	29.19	741.5	29.69	754 0	57.2	14.0	65	SW	.....	.....	6	.....	.....	.....	.....	0.054	1.37	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.20	741.6	29.91	759.6	58.5	14.7	93	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.0	30.07	763.7	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.08	2.	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.40	746.8	.....	.....	57.2	14.0	61	S	.....	.....	4	.....	10	.....	SW	0	0	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.10	764.6	30.13	765.3	42.3	5.7	97	NNW	12.5	5.6	.....	.....	10n	.....	.....	0.413	10.5	Raining	Marc Dechevrens, J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,580.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	29.00	736.6	29.86	758.4	45.1	7.3	88	SE			4		6n	W		0.020	0.5	Raining	Prof. Dr. Hoh.
Berlin	29.55	750.6	29.72	755.0	43.5	6.4	86	SE			1		10			0.024	0.6	Raining	Prof. Dr. Arndt.
Breslau	29.45	748.0	29.98	761.5	28.8	— 1.8	96	SE			4		0			0.240	6.09		Royal University Obs'y
Carlsruhe	29.39	746.6	29.82	757.3	57.7	14.3	70	SW			6		9	SW		0.150	3.8		Albert Senz.
Cassel	29.07	738.4	29.67	753.7	49.3	9.6	85	S			1		7	SW		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.49	749.1	29.86	758.5	54 1	12.3	61	SW			3		7			0.110	2.8		Physical Society.
Friedrichshafen	28.52	724.5	29.97	761.3	48.7	9.3	62	SSE			1		8	S		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.44	747.8	29.61	749.6	46.4	8.0	98	S			3		10			0.319	8.1		Dr. Reinhold Kleeman.
Kiel	29.41	747.1	29.43	747.5	45.1	7.3	96	SSW			6		10			0.493	12.52		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.05	763.3	30.14	765.6	13.5	—10.3	60	SE			9		9			0	0		Prof. E. Luther.
Köslin			29.65	758.3	21.2	— 6.0		SE			4		4			0.484	12.3		H. Müller.
Leipsic Observatory	29.36	745.7	29.78	756.5	46.0	7.8	81	SSW			3		9	SW		0.110	2.8		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.47	748.6	29.70	754.3	45.7	7.6	85	SSE			1		10ks	SSW		0.047	1.2	Raining	Dr. Assmann.
Memel	30.09	764.3	30.14	765.5	12.6	—10.8	66	SE			7		1cs						Reinbrecht & Issermann
Munich (München)	28.14	714 7	29.98	761.4	49.3	9.6	63	SW			2		9	SE		0.012	0.3		Dr. C. Lang.
Neufahrwasser	30.00	762.0	30.02	762.4	14.7	— 9.6	81	S			6		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.26	743.2	29.78	756.5	54.5	12.5	75	S			1		4	SSW		0.039	1.0		Reallehrer Dicknether.
Posen	29.67	753.5	29.98	761.4	21.6	— 5.8	85	SE			6		10			0.126	3.2		Prof. Dr. Magener.
Strassburg (in Alsace)	29.32	744.7	29.86	758.5	56.8	13.8	70	SSW			4		8	SW		0.009	0.24		Imp. University Observatory.
Stuttgart	28.93	734.9	29.82	757.4	54.9	12.7	63	SW			5		10			0.024	0.6		Prof. Dr. Schoder.
Thorn	29.90	759.5	30.09	764.3	16.9	— 8.4	89	SE			4		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.42	721.8	29.99	761.7	46.0	7.8	81	SSW	7.8	3.5			10		W	0	0		Reallehrer J. Hopfner
Wustrow	29.55	750.5	29.57	751.1	34.2	1.2	100	SE			5		10			0.732	18.6	Raining	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.55	750.5	29.99	761.7	46 9	8.3		NE			4.0		10					Raining	Dr. J. F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.1	30.06	763.5	74.3	23.5	42	NW	13	5.8			0			0	0	Blue sky	
Deesa	29.49	749.1	29.98	761.4	71.7	22.1	19	WSW	7.1	3.2			10	NW		0	0	Raining	
Bombay	29.87	758.7	29.91	759.7	74.5	23.6	57	NNW	22	9.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.01	711.4	29.86	758.4	81.8	27.7	10	WNW	16	7.2			0			0	0	Blue sky	
Belgaum	27.32	693.9	29.83	757.8	79.7	26.5	21	SSW	5	2.2			0			0	0	Blue sky	
Lahore	29.15	740.4	29.93	760.3	56.6	13.7	58	Calm	0.9	0.4			0			0	0	Blue sky	
Roorkee	28 97	735.9	29.92	759.8	56.8	13.8	66	NW	2.6	1.2			1			0	0		
Agra	29.35	745.5	29.94	760.4	65.8	18.8	32	W	6.8	3.0			0			0	0		
Nagpur	28.83	732.2	29.89	759.1	75.1	23.9	25	Calm	3.1	1.4			0			0	0	Blue sky	
Jubbulpore	28.53	724.6	29.93	760.3	66.1	18.9	28	N	1.6	0.7			0			0	0	Blue sky	
Lucknow	29.50	749.4	29.90	759.4	58.8	14.9	76	WNW	1.1	0.5			0			0	0	Blue sky	
Allahabad	29.60	751.9	29.93	760.1	62.8	17.1	84	NW	4.3	1.9			0			0	0	Blue sky	
Patna	29.69	754.2	29.88	759.0	63.2	17.3	38	W	1.7	0.8			0			0	0	Blue sky	
Hazaribagh	27.81	706.4	29.92	759.8	55.8	13.2	41	W	10.9	4.9			0			0	0	Blue sky	
Cuttack	29.83	757.6	29.91	759 7	68.9	20.5	51	WNW	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.89	759.1	29.91	759.7	61.8	16.6	67	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.42	747.2	29.83	757.6	59.8	15.4	50	S	4.6	2.1			0			0.04	1.0	Blue sky	
Chittagong	29.79	756.8	29.89	759.1	65.6	18.7	59	NW	3.7	1.6			0			0	0		
Sibsagar	29.40	746.8	29.75	755.6	63.0	17.2	82	WSW	4.0	1 8			4			0.22	5.6	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.0	30.11	764.7	53.6	12.0	53	SW	1.3	0.6	.....	.....	2	.....	.....	0.327	8.3	.....	Prof. Giovanni Clodig.
Milan	29.60	751.8	30.14	765.5	42.8	5.7	62	W	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.00	761.9	30.11	764.8	45.1	7.3	91	W	0.7	0.3	.....	.....	5	.....	.....	0.055	1.4	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.16	740.6	30.10	764.5	41.2	5.1	94	ESE	3.1	1.4	.....	.....	6	S	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.91	759.7	30.11	764.7	56.1	13.4	56	SE	3.1	1.4	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.15	714.9	30.10	764.6	49.8	9.9	46	SW	.....	.....	4	.....	4	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.00	763.4	30.11	764.7	45.9	7.7	82	NW	10.5	4.7	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.84	757.9	30.10	764.6	56.1	13.4	58	SSW	.....	.....	4	.....	5	.....	.....	0.165	4.2	.....	Cav. F. Meucci.
Leghorn	30.01	762.3	30.10	764.6	56.8	13.8	71	NW	4.3	1.9	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.86	758.4	30.04	763.0	60.3	15.7	45	N	12.5	5.6	.....	.....	3	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.64	752.8	29.90	759 5	51.4	10.8	88	NW	18.6	8.3	.....	.....	10	N	.....	0.650	16.5	.....	Prof. C. De Giorgi.
Cosenza	28.63	727.2	29.92	760.0	59.7	15.4	77	NW	3.1	1.4	.....	.....	6	.....	.....	0.122	3.1	.....	Prof. D. Conti.
Cagliari	29.88	759.0	30.08	764.1	63.1	17.3	43	NW	.....	.....	2	.....	1	N	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.80	756.8	30.05	763.3	57.4	14.1	68	NNW	13.0	5.8	.....	.....	10	NNW	.....	0.024	0.6	.....	Prof. G. Ciaccia'ore.
Syracuse	29.89	759.3	29.94	760.4	60.3	15.7	70	E	12.5	5.6	.....	.....	5	E	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.49	749.1	30.02	762.5	56.8	13.8	57	N	3.1	1.4	.....	.....	3	.....	.....	0.035	0.9	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	760.2	29.95	760.7	50.2	10.1	80	NE	5.7	2.6	.....	10ck	.....	NE	.....	0.122	3.10	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.70	754.4	29.91	759.7	48.5	9.2	87	NE	4.2	1.9	.....	.....	0	.....	.....	0.075	1.90	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.14	765.5	30.21	767.3	35.8	2.1	97	NNW	10.2	4.6	.....	.....	10n	.....	NNW	1.510	38.35	Raining	The Staff.
Wakayama	29.83	757.7	29.89	759.2	47.7	8.7	80	N	15.8	7.1	.....	.....	10ns	.....	.....	0.585	14.86	Light rain	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	25.17	639.4	30.34	770.6	46.4	8.0	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	R. Banda, C. E.
Guadalajara	24.56	623.8	30.32	770.0	55.9	13.3	74	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. L. Perez.
Leon	29.81	757.1	30.07	763.8	58.5	14.7	96	NW	.....	.....	2	1s	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mexico, Central Observatory	23.18	588.8	30.34	770.7	46.2	7.9	41	W	1.1	0.5	.....	0	0	.....	.....	0	0	Fine	F. Quijano, C. E.
Morelia	24.19	614.4	.....	.....	61.9	16.6	32	SE	.....	.....	1	0	0	.....	.....	0	0	Fine	The Staff
Pabellon (Aguascalientes)	24.11	612.4	30.17	766.2	54.1	12.3	53	N	.....	.....	1	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Puebla (Catholic Institute)	23.46	595.9	30.44	773.2	41.0	5.0	49	E	0.4	0.2	.....	.....	0	.....	.....	0	0	Fine	M. V. de Leon, M. E
San Luis Potosi	24.37	619.1	30.42	772.6	55.2	12.9	47	SE	.....	.....	1	8	0	W	.....	0	0	Cloudy	Prof. P. Spina.
Tlacotalpam	29.97	761.2	29.98	761.5	71.6	22.0	94	NE	.....	.....	1	0	0	.....	.....	0	0	Foggy	G. Barreta, M. D.
Vera-Cruz	30.17	766.2	30.19	766.9	74.3	23.5	91	NW	6.7	3.0	.....	.....	10sk	.....	N	0	0	Very cloudy	Prof. M. M. Chazaro.
Zacatecas	22.68	576.1	30.42	772.7	50.5	10.3	61	E	.....	.....	3	0	0	.....	.....	0	0	Very clear	Prof. J. Rossell
																			J. C. Castrillon.

NOTE.—The elevation of Colima is 507.8 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.45	748.1	29.45	748 1	50.7	10.4	.....	SW	.....	.....	6	.....	.....	.....	.....	0.130	3.3	.....	
Groningen	29.35	745.4	29.40	746.8	50.4	10.2	.....	SW	.....	.....	5	.....	.....	.....	.....	0.331	8.4	.....	
Helder	29.34	745.3	29.34	745.3	45.0	7.2	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.091	2.3	.....	
Hellevoetsluis	29.48	748.9	29.48	748.9	49.1	9.5	87	SW	.....	.....	6	.....	.....	.....	.....	0.157	4.0	.....	
Utrecht	29.41	747.1	29.46	748.3	52.2	11.2	89	SSW	.....	.....	5	.....	8	.....	.....	0.276	7.0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.03	737.3	29.08	738.7	40.6	4.8	56	S	8.7	3.9			10			0.047	1.2	Snowing	
Brönö	29.43	747.5	29.47	748.5	28.4	— 2.0	62	E	22	10			0			0	0		
Christiana	29.39	746.5	29.54	750.4	23.0	— 5.0	98	NE	9	4			10					Snowing	
Tromsö	29.55	750.5	29.59	751.6	23.7	— 4.6	72	Calm	0	0			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.59	751.5	29.80	756.9	55.8	13.2	88	W			5		4			0.118	3.0		Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.21	767.3	51.1	10.6	93	SSW	6.9	3.1			7			0.39	10.0		Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.03	762.7	30.11	764.9	66.2	19.0	58	WSW	4.9	2.2			10			0	0		Capt. D. A. de Cunha.
Lisbon Observatory	29.7	756.4	30.14	765.6	59.2	15.1	77	SW	19.9	8.9			4			0.150	3.8		The Staff.
Ponta Delgada (Azores)	29.77	756.1	29.84	757.9	59.4	15.2	58	WSW	15.4	6.9			4			0.161	4.1		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias																		A. G. da Silva Costa, Com'd't.
D. Fernando																		A. M. d. Sande, Com'd't.
Duque da Terceira																		J. C. M. Cabrate, 1st Lt.
Mindello [Costa.																		J. F. R. R. Bastos, Com'd't.
Q. anza, Capt. Carlos Maria da Silva St. Paul de Loando			29.93	760.1	83.3	28.5		W			2		3		W	1	W	D. clouds, 1½ hr's rain-fall. C. J. de Senna Barcellos, Q.; M. J. T. d'Oliveria, Com'd't.
Rio Duro																		
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.			30.06	763.5	75.7	24.3		NNE			3		0			2	NE	Blue sky. A. de Souza Roza, 2nd L't
Sá da Bandeira																		F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, N. 0° 10′, E. 6° 46′			29.87	758.6	84.9	28.9		SSW			3		7		SSW	2	SSE	D. clouds. A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China			30.04	763.0	56.3	13.5		N			3		10		N	1		Rain & fog, 4 hr's rain-fall. J. G. Felgo, 2nd Lieut

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	30.39	771.9	30.41	772.4	— 0.5	— 18.2	65	SSE	9	4			8cs						Capt. Sseliwerstow.
Astrakhan	30.41	772.3	30.32	770.2	— 8.5	—22.5	76	WNW	7	3			2s					Light clouds	Capt. Wisganow.
Barnaul	29.62	752.4	30.17	766.4	4.1	—15.5	88	Calm	0	0			0						Meteorological Obs.
Dorpat	30.18	766.5	30.45	773.4	10.4	—12.0	56	SSW	7	3		2ck							Prof. Dr. Weihrauch.
Ekaterinburg	29.17	740.9	30.26	768.7	— 8.5	—22.5	77	NNE	4	2		6c						Light clouds	Meteorological Obs.
Irkutsk																			
Kasan	30.04	763.1	30.35	770.9	— 4.7	—20.4	76	NNW	2	1			3						Physical Cabinet.
Kertch	30.58	776.8	30.60	777.3	— 5.1	—20.6	86	NE	2	1			0						Lagorio.
Kieff	29.91	759.8	30.65	778.4	— 2.9	—19.4	56	SW	2	1			0						Physical Cabinet.
Krotkowo*	29.86	758.5	30.41	772.3	— 7.6	—22.0	59	NNW	0	0			0						Cand. Fatjanow.
Lugan	30.21	767.4	30.45	773.3	— 6.2	—21.2	51	W	9	4			2					Light clouds	Meteorological Obs.
Moscow	29.97	761.1	30.59	776.9	0.3	—17.6	62	NNW	7.8	3.5			0						Meteorological Obs.
Nertchinsk	27.99	710.9	30.69	779.4	—22.4	—30.2	79	Calm	0	0			0						Meteorological Obs.
Nikolaiev	30.60	777.3	30.67	779.1	— 3.5	—19.7	62	NE	4	2			0						Meteorological Obs.
Nukuss	29.51	749.5	29.75	755.7	28.2	— 2.1	90	ENE	11	5			9kn						Kurdakof.
Orenburg																			
Pekin (China)																			
St. Petersburg	30.50	774.8	30.52	775.2	10.2	—12.1	74	SSE	16	7			1cs						Physical Observatory.
Tashkend	28.25	717.6	29.91	759.6	29.3	— 1.5	74	NNE	4	2			10						Central Physical Obs.
Tiflis	28.63	727.3	30.16	766.0	23.2	— 4.9	46	NW	45	20			5cs						Teich, A. M.
Vladivostock																			Physical Observatory.
Warsaw	29.71	754.6	30.17	766.3	16.5	— 8.6	58	SE	22	10			10ks						
Wilna	30.00	762.1	30.47	773.9	9.3	—12.6	70	SSE	9	4			2					Light clouds	Astronomical Obs.
Yeniseisk	30.13	765.2	30.46	773.6	—10.5	—23.6	70	Calm	0	0			0						Astronomical Obs.
																			Marks.

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.95	760.7	30.06	763.4	62.8	17.1	50	SSW	4.6	2.08			1c					Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.88	759.0	29.94	760.4	68.4	20.2	42	W	7.1	3.17		3	2	SW		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.5			51.8	11.0	64	SW	21.9	9.79		0	4			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.90	708.6	30.15	765.7	55.0	12.8	66	SW	19.6	8.67		0	6			0	0	Clouds	The Staff.
Murcia, Met. Obs'y	30.00	762.1	30.15	765.9	68.0	20.0	46	SW	2.3	1.03		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.94	735.0	29.83	757.7	54.9	12.7	91	SSW	41.6	18.6			10			0.217	5.5	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.19	766.9	30.26	768.6	67.6	19.8	89	ENE	2.2	1.0		0	0			0	0	Clear	Benito Vines, S. J.
Manilla, Phillippine Islands	29.85	758.3	29.91	759.6	81.3	27.4	72	ESE	6.6	3.0						0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.7	30.21	767.3	64.2	17.9	65	S	8.5	3.8		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.11	764.7	30.20	767.0	74.5	23.6	80	E	10.5	4.76		4ckn	5ck	E	E	0.039	1.00	Cloudy	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.04	763.0	30.08	764.0	9.0	—12.8	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Umea	29.91	759.7	29.96	761.0	15.8	— 9.0	100	S	.....	.....	7	.....	10	.....	.....	0.063	1.6	.....	
Hernosand	29.80	756.9	29.85	758.2	25.5	— 3.6	82	S	.....	.....	4	.....	10	.....	.....	0.008	0.2	.....	
Stockholm	29.69	754.2	29.87	758.7	24.4	— 4.2	81	S	.....	.....	6	.....	10	.....	.....	0.028	0.7	.....	
Wisby	29.82	757.4	29.88	758.9	22.6	— 5.2	90	S	.....	.....	6	.....	10	.....	.....	0.134	3.4	.....	
Sub-Series.																			
Upsala	29.78	755.1	29.82	757.3	23.7	— 4.6	88	SSE	16.3	7.3	.....	.....	10	.....	.....	0.171	4.34	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 24° 00′, W. 84° 07′	.....	.....	30.26‡	768.5‡	75.2	24.0	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	Misty	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.3	29.97	761.3	57.0	13.9	46	WSW	.....	.....	3	.....	7	.....	.....	0.012	0.3	Vapory...	The Observatory.
Zurich	28.34	719.8	30.00	761.9	48.4	9.1	67	SE	.....	.....	1	.....	3	.....	.....	0	0	Fair...	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer,—0.8 mm.; Thermometer, +9.9 Cent. Relative Humidity, —24 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.26	768.5	34.3	1.3	91	ENE	27	12.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.89	759.1	52.3	11.3	.....	W	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.93	760.1	61.0	16.1	72	WSW	.....	.....	3	.....	10n	.....	WSW	0.19	4.8	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.38	746.2	29.39	746.5	33	0.6	.....	NW	7	3.1	.....	.....	7ks	.....	.....	0	0	Fair	Hon. J. Ferguson.
Chatham, N. B	29.39	746.5	29.45	748.0	34.9	1.6	70	S	9	4.0	.....	2k	0	S	.....	0.03	0.8	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.39	746.5	29.44	747.8	30.0	3.9	93	SW	7	3.1	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.06	763.5	17.7	—11.3	64	W	.....	.....	4	0	1s	.....	.....	0.117	2.97	Clear	James Smith, M. A.
Dalhousie, N. B	29.28	742.4	29.40	746.7	27.2	— 2.7	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	24.6	— 4.1	94	W	28	12.5	.....	5k	5n	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.52	749.8	29.59	751.6	34.0	1.1	60	W	13	5.8	.....	0	9s	.....	W	Inap.	Inap.	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	29.84	757.9	30.36	783.8	—31.0	—35.0	100	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.21	741.9	30.43	772.9	11.0	—11.7	100	NW	.....	.....	3	6cs	0	NW	.....	0.06	1.5	Fair	James Grant.
Halifax, N. S	29.45	748.0	29.58	751.3	4 .8	4.9	93	SW	12	5.4	.....	0	6ks	.....	.....	0.470	11.94	Fair	A. Allison.
Hamilton, Ontario	30.04	763.0	30.45	773.4	15.5	— 9.2	78	NW	.....	.....	3	5ks	0	NW	.....	6	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.81	757.2	30.18	766.6	13.6	—10.2	84	NW	20	8.9	.....	.....	10ks	.....	.....	0.29	7.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.39	746.5	29.43	747.5	37.2	2.9	95	S	12	5.4	.....	.....	10n	.....	.....	.....	.....	Raining	C. H. Rigby.
Montreal, Quebec	29.81	757.2	30.03	762.7	11.0	—11.7	59	W	32	14.3	.....	0	0	.....	.....	0.29	7.4	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nelson.
Norwood, Ontario	29.39	746.5	30.15	765.8	12.4	—10.9	92	W	21	9.4	.....	8k	0	W	.....	0.13	3.3	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.59	751.6	30.37	771.4	2.3	—16.5	72	W	28	12.5	.....	0	0	.....	.....	0.23	5.8	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.42	747.2	30.25	768.3	12.2	—11.0	60	W	.....	.....	5	6k	0	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.71	754.6	30.48	774.2	12.1	—11.1	100	W	18	8.0	.....	.....	10n	.....	.....	0.22	5.6	Light snow	H. Morgan.
Port Stanley, Ontario	29.78	756.4	30.50	774.7	14.2	— 9.9	74	W	24	10.7	.....	.....	10n	.....	.....	0.14	3.6	Light snow	M. Payne.
Quebec, Quebec	29.37	746.9	29.71	754.6	12.5	—10.8	100	NW	.....	.....	8	.....	10n	.....	.....	0.20	5.1	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	29.61	752.1	30.12	765.0	4.6	—15.2	62	NW	25	11.2	.....	.....	10n	.....	.....	0.37	9.4	Light snow	W. H. McIntyre.
St. John, N. B	29.46	748.3	29.63	752.6	35	1.7	66	NW	15	6.7	.....	1k	0	.....	.....	0.53	13.5	Fair	G. Murdock, C. E.
Saugeen, Ontario	29.61	752.1	30.40	772.1	15.0	— 9.4	84	W	38	17.0	.....	.....	10s	.....	.....	0.13	3.3	Snowing	Mrs. K. Stewart.
Stratford, Ontario	29.63	737.3	30.44	773.2	9.1	—12.7	96	NW	19	8.5	.....	.....	10s	.....	.....	0.16	4.1	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	29.49	749.0	29.53	750.0	43.0	6.1	96	SW	26	11.6	.....	.....	10n	.....	.....	0.46	11.7	Raining	T. C. Hill, C. E.
Toronto, Ontario	29.97	761.2	30.39	771.9	14.9	9.5	67	W	27	12.1	.....	0	2ks	.....	.....	0.090	2.29	Clear	Magnetic Observatory
Windsor, N. S	29.46	748.3	29.55	750.6	40.0	4.4	86	W	18	8.8	.....	9k	0	.....	.....	0.18	4.6	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.28	743.7	30.46	773.7	11.6	—11.3	72	W	26	11.6	.....	7k	0	NW	.....	0.09	2.3	Fair	Professor Wolverton.
Yarmouth, N. S	29.60	754.1	29.70	755.9	36.3	2.4	62	NW	29	13.0	.....	2cs	2s	W	.....	0.19	4.8	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.83	757.7	30.09	764.3	31	— 0.6	100	S	.....	.....	.....	.....	10	.....	.....	Blank	Blank	Threatening	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.76	755.9	30.9	— 0.6	.....	SW	.....	.....	1	.....	.....	.....	.....	0.32	8.1	.....	The Commandant.
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.96	761.0	30.21	767.3	22	— 5.6	72	N	16	7.2	.....	1k	8n	NW	NW	Inap.	Inap	Light snow..	
Alpena, Michigan	29.79	756.7	30.52	775.2	5	—15.0	75	W	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.15	740.4	30.35	770.9	41	5.0	65	NW	16	7.2	.....	Haze	5s	.....	Calm	0.13	3.3	Fair...	
Atlantic City, New Jersey	30.22	767.6	30.24	768 1	34	1.1	70	W	10	4.5	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	30.11	764.8	30.31	769.9	61	16.1	82	NW	3	1.3	.....	0	8s	.....	W	0.01	0.3	Fair...	
Baltimore, Maryland	30.28	769.1	30.33	770.4	37	2.8	45	NW	4	1.8	.....	0	Haze	.....	Calm	0.36	9.1	Clear.	
Barnegat, New Jersey	30.19	766.8	30.22	767.6	36	2.2	53	NW	17	7.6	.....	0	0	.....	.....	0.28	7.1	Clear	
Bismarck, Dakota	28.57	725.7	30.43	772.9	—14	—25.6	100	E	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.90	734.0	30.28	769.1	42	5.6	83	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Boise City, Idaho	27.03	686.6	29.99	761.7	30	— 1.1	94	NW	4	1.8	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Boston, Massachusetts	29.85	758.2	30.01	762.2	33	0.6	89	NW	29	13.0	.....	0	0	.....	.....	0.14	3.6	Clear.	
Brackettville, Texas	29.15	740.4	30.25	768.3	48	8.9	29	N	2	0.9	.....	0	8ks;s	.....	Calm	0	0	Fair	
Breckenridge, Minnesota	29.64	752.8	30.86	783.8	—20	—28.9	100	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	30.24	768.1	30.29	769.4	49	9.4	85	N	8	3 6	.....	.....	10s	.....	SE	0.02	0.5	Cloudy.....	
Buffalo, New York	29.64	752.8	30.42	772.7	14	—10.0	64	W	20	8.9	.....	5k	0	W	.....	0.25	6.3	Fair...	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.79	756.7	30.11	764.8	15	— 9.4	65	W	20	8.9	.....	0	0	.....	.....	0.04	1.0	Clear.	
Cairo, Illinois	30.28	769.1	30.71	780.0	28	— 2.2	66	N	18	8.0	.....	0	0	.....	.....	0.03	0.8	Clear.	
Campo, California	27.46	697.5	30.03	762.7	26	— 3.3	63	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	30.26	768.6	30.27	768.8	49	9.4	64	NE	29	13.0	.....	.....	10s	.....	NE	0.32	8.1	Cloudy.....	
Cape Henry, Virginia	30.28	769.1	30.30	769.6	44	6.7	52	NW	28	12.5	.....	0	5ks	.....	W	0.12	3.0	Fair...	
Cape Lookout, N. Carolina	30.22	767.6	30.24	768.1	56	13.3	94	W	12	5.4	.....	.....	10s	.....	W	0.26	6.6	Cloudy.....	
Cape May, New Jersey	30.23	767.8	30.26	768.6	38	3.3	46	NW	38	17.0	.....	0	0	.....	.....	0.04	1.0	Clear.	
Castroville, Texas	29.56	750.8	30.30	769.6	47	8.3	34	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cedar Keys, Florida	30.29	769.4	30.31	769.9	66	18.9	95	NW	8	1.3	.....	0	9s	.....	NW	0	0	Cloudy.....	
Charleston, South Carolina	30.18	766.6	30.24	768.1	64	17.8	83	NW	7	3.1	.....	.....	10s	.....	NW	0.02	0.5	Threatening	
Charlotte, North Carolina	29.43	747.5	30.28	769.1	42	5.6	66	NE	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy.....	
Chattanooga, Tennessee	29.65	753.1	30.51	774.9	33	0.6	51	N	18	8.8	.....	1cs	0	Calm	.....	0.31	7.9	Clear.	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	12	—11.1	42	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.94	760.5	30.72	780.3	14	—10.0	64	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.94	760.5	30.65	778.5	27	— 2.8	64	NW	7	3.1	.....	0	Haze	.....	Calm	0.47	11.9	Clear	
Cleveland, Ohio	29.76	755.9	30.55	776 0	19	— 7.2	54	W	21	9.4	.....	5k	5ks	W	W	0.43	10.9	Cloudy.....	
Coleman City, Texas	28.62	726.9	30.42	772.7	28	— 2.2	66	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Columbus, Ohio	29.66	753.4	30.58	776.7	24	— 4.4	61	NW	12	5.4	.....	0	0	.....	.....	0.22	5.6	Clear.....	
Concho, Texas	28.50	723.9	30.29	769.4	34	1.1	52	NE	.....	.....	2	.....	10ks	.....	Calm	0	0	Cloudy.....	
Corsicana, Texas	29.96	761.0	30.47	773.9	33	0.6	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	30.06	763.5	30.78	781.8	14	—10.0	64	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	18	— 7.8	84	E	.....	.....	1	0	0	.....	.....	0.07	1.8	Clear.	
Deadwood, Dakota	25.30	642.6	.....	.....	31	— 0.6	68	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	29.50	744.2	30.57	776.5	34	1.1	61	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Delaware Breakwater, Del	30.24	768.1	30.27	768.8	39	3.9	55	N	26	11.6	.....	0	0	.....	.....	0.01	0.3	Clear.	
Denison, Texas	29.68	753.9	30.54	775.7	30	— 1.1	78	NE	6	2.7	.....	2c	0	NW	.....	0	0	Fair...	
Denver, Colorado	24.80	629.9	30.02	762.5	11	—11.7	60	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.80	756.9	30.80	782.3	12	—11.1	80	NE	4	1.8	.....	0	5s	.....	Calm	0	0	Fair...	
Detroit, Michigan	29.84	757.9	30.58	776.7	13	—10.6	81	W	10	4.5	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy.....	
Dodge City, Kansas	27.77	705.4	30.28	769.1	18	— 7.8	68	E	20	8.9	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	30.01	762.2	30.82	782.8	8	—13.3	55	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Duluth, Minnesota	30 03	762.7	30.85	783.6	—15	—26.1	71	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Eagle Pass, Texas	29.60	751.8	30.36	771.1	53	11.7	42	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	29.68	751.3	29.65	753.1	35	1.7	61	SW	9	4.0	.....	10k	0	W	.....	0.43	10.9	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	50	10.0	93	N	.....	.....	1	.....	10s	.....	Calm	.....	.....	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.72	754.9	30.50	774.7	19	— 7.2	69	W	26	11.6	.....	.....	10s	.....	W	0.19	4.8	Cloudy.....	
Escanaba, Michigan	29.93	760.2	30.70	779.8	— 3	—19.4	66	W	8	3.6	.....	0	2s	.....	NW	0	0	Fair...	
Florence, Arizona	28.56	725.4	30.16	766.1	38	3.3	91	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	.....	.....	.....	.....	25	— 3.9	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.15	715.0	30.19	766.8	3	—16.1	73	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Custer, Montana	26.78	680.2	.....	.....	7	-13.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.35	643.9	30.31	769.9	34	1.1	70	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Fort Gibson, Indian Ter	30.02	762.5	30.61	777.5	28	— 2.2	54	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.29	642.4	30.09	764.3	45	7.2	33	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	29.18	741 1	30.56	776.2	29	— 1.7	67	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Keogh, Montana	27.29	693.2	.....	.....	12	—11.1	79	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair...	
Fort McKavett, Texas	28.06	712.7	30.09	764.3	35	1.7	53	NE	10	4.5	.....	0	2ks	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.26	743 2	30.47	773.9	27	— 2.8	76	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	27	— 2.8	53	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.56	725.4	30.21	767 3	39	3.9	55	N	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.29	769.4	30.34	770.6	50	10.0	86	NE	17	7.6	.....	.....	10s	.....	NE	0.22	5.6	Cloudy.....	
Grand Haven, Michigan	29.95	760.7	30.68	779.5	11	—11.7	80	NW	14	6.3	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.57	751.1	30.60	777.2	25	— 3.9	75	SE	4	1.8	.....	2c	0	W	.....	0	0	Fair...	
Indianapolis, Indiana	29.78	756.4	30.65	778.5	21	— 6.1	57	NW	6	2.7	.....	2c	0	Calm	.....	0.06	1.5	Clear.	
Indianola, Texas	30.32	770.1	30.35	770.9	50	10.0	86	N	22	9.8	.....	.....	10s	.....	N	0.27	6.9	Cloudy.....	
Jacksboro, Texas	29.27	743.4	30.49	774.4	30	— 1.1	78	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	30.29	769.4	30.31	769.9	65	18.3	84	W	3	1.3	.....	2cs	8s	Calm	W	0	0	Cloudy.....	
Keokuk, Iowa	30.04	763.0	30.74	780.8	17	— 8.3	67	N	6	2.7	.....	0	2s	.....	Calm	0	0	Clear.	
Key West, Florida	30.23	767.8	30.26	768.6	73	22.8	81	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	30.26	768.6	30.29	769.4	45	7.2	61	N	36	16.1	.....	10cs	0	N	.....	0.15	3.8	Cloudy.....	
Knoxville, Tennessee	29.48	748.8	30.56	776.2	31.5	— 0.3	64	N	12	5.4	.....	0	0	.....	.....	0.21	5.3	Clear.	
La Crosse, Wisconsin	29.97	761.2	30.83	783.1	2	—16.7	72	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	37	2,8	45	Calm	0	0	.....	0	2s	.....	Calm	.....	0	Fair.....	
Laredo, Texas	29.91	759 7	30.26	768.6	57	13.9	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Leavenworth, Kansas	29.77	756.1	30.71	780.0	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Lewiston, Idaho	.....	.....	.....	.....	24	— 4.4	88	E	7	3.1	.....	5c	0	Calm	.....	0	0	Fair...	
Little Rock, Arkansas	30.27	768.8	30.66	778.7	34	1.1	61	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.79	756.7	30.15	765.8	35.0	1.7	80	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	30.02	762.5	30.63	778.0	25	— 3.9	62	NW	10	4.5	.....	0	0	.....	.....	0.41	10.4	Clear.	
Lynchburg, Virginia	29.63	752.6	30.34	770.6	39	3.9	31	NW	8	3.6	.....	0	0	.....	.....	0.21	5.3	Clear.	
Madison, Wisconsin	29.62	752.3	30.75	781.0	3	—16.1	73	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.86	758.4	30.68	779.3	2	—16.7	72	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Mason, Texas	28.72	729.5	30.59	777.0	37	2.8	38	NE	6	2.7	.....	0	5s	.....	Calm	0	0	Fair..	
Memphis, Tennessee	30.24	768.1	30.61	777.5	32	0.0	50	N	13	5.8	.....	0	0	.....	.....	0.07	1.8	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.91	759.7	30.75	781.0	3	—16.1	73	NW	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.31	769.9	30.35	770.9	50	10.0	100	N	10	4.5	.....	.....	10n	.....	Calm	1.33	33.8	Light rain	
Montgomery, Alabama	30.17	766.3	30.41	772.4	46	7.8	69	N	11	4.9	.....	0	9ks	.....	N	1.74	44.2	Clearing	
Morgantown, West Virginia	29.44	747.8	30.50	774.7	32	0.0	79	NW	16	7.2	.....	0	0	.....	.....	0.52	13.2	Clear	
Mt. Washington, N. H.	23.02	584.7	29.38	746.2	— 5	—20.6	100	NW	123	55.0	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	30.02	762.5	30.61	777.5	30	— 1.1	78	N	5	2.2	.....	0	0	.....	.....	0.45	11.4	Clear	
New Haven, Connecticut	30.02	762.5	30.14	765.5	34	1.1	61	NW	11	4.9	.....	2k	0	NW	.....	0.26	6.6	Fair	
New London, Connecticut	30.00	762.0	30.05	763.3	36	2.2	45	W	11	4.9	.....	0	0	.....	.....	0.23	5.8	Clear	
New Orleans, Louisiana	30.30	769.6	30.36	771.1	60	15.6	82	N	8	3.6	.....	.....	10n	.....	N	1.38	35.1	Light rain	
Newport, Rhode Island	29.98	761.5	30.03	762.7	37	2.8	63	NW	17	7.6	.....	0	0	.....	.....	0.20	5.1	Clear	
New River, North Carolina	.....	.....	.....	.....	53	11.7	73	N	.....	.....	4	.....	10s	.....	SW	0	0	Cloudy	
New York, New York	29.99	761.7	30.18	766.6	34	1.1	61	NW	17	7.6	.....	2k	Haze	NW	Calm	0.08	2.0	Fair	
Norfolk, Virginia	30.23	767.8	30.29	769.4	43	6.1	92	N	12	5.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
North Platte, Nebraska	27.85	6 4.7	30.14	765.5	19	— 7.2	47	SE	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	35.0	1.7	95	Calm	0	0	.....	.....	10n	.....	Calm	0.33	8.4	Light rain	
Omaha, Nebraska	29.46	748.3	30.69	779.5	15	— 9.4	82	E	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.93	760.2	30.28	769.1	21	— 6.1	71	NW	24	10.7	.....	.....	10s	.....	W	0.41	10.4	Cloudy	
Pembina, Dakota	29.76	755.9	30.77	781.5	—30	—34.4	100	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pensacola, Florida	30.34	770.6	30.37	771.4	59	15.0	94	NW	10	4.5	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Philadelphia, Pennsylvania	30.20	767.1	30.26	768.6	36	1.7	58	NW	20	8.9	.....	0	0	.....	.....	0.10	2.5	Clear	
Phœnix, Arizona	28.92	734.6	30.79	782.1	41	5.0	65	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.59	446.8	29.80	756.9	7	—13.9	54	W	54	24.1	.....	5cs	0	W	.....	0	0	Fair	
Pilot Point, Texas	29.74	755.4	30.64	778.2	33	0.6	89	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	29.94	760.1	29.71	754.6	26	— 3.3	63	SE	6	2.7	.....	2k	0	Calm	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.61	752.1	30.48	774.2	27	— 2.8	53	NW	16	7.2	.....	.....	9s	.....	NW	0.32	8.1	Cloudy	
Port Huron, Michigan	29.81	757.2	30.56	776.2	9	—12.8	78	NW	16	7.2	.....	0	8s	.....	NW	Inap.	Inap.	Fair	
Portland, Maine	29.76	755.9	29.81	757.2	31	— 0.6	58	W	28	12.5	.....	0	0	.....	.....	0 06	1.5	Clear	
Portland, Oregon	29.86	758.4	29.93	760.2	34	1.1	90	SE	4	1.8	.....	0	2s	.....	S	0.17	4.3	Fair	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	79	NE	33	14.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	23	— 5.0	73	~	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.26	768.6	30.28	769.1	67	19.4	95	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Red Bluff, California	29.50	749.3	29.86	758.4	40	4.4	91	SE	12	5.4	.....	.....	10s	.....	.....	0.39	9.9	Cloudy	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.63	752.6	30.31	769.9	10	—12.2	79	W	22	9.8	.....	0	9ks	.....	W	0.38	9.7	Cloudy	
Roseburg, Oregon	29.28	743.7	29.86	758.4	32	0.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0.49	12.4	Cloudy	
Sacramento, California	29.79	756.7	29.87	758.7	42.5	5.8	91	SE	11	4.9	.....	0	8s	.....	Calm	0 75	19.1	Fair	
St. Louis, Missouri	30.08	764.0	30.72	780.3	23	— 5.0	60	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.83	757.7	30.79	782.1	— 1	—18.3	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.56	649.2	29.89	759.2	29	— 1.7	56	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.69	754.1	30.40	772.1	47	8.3	41	NE	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.09	764.3	30.16	766.1	42	5.6	83	N	5	2.2	.....	0	1ks	.....	SW	0	0	Clear	
Sandusky, Ohio	29.86	758.4	30.60	777.2	18	— 7.8	84	NW	34	15.2	.....	2k	2ks	NW	NW	0.24	6.1	Fair	
Sandy Hook, New Jersey	30.15	765.8	30.18	766.6	36	2.2	61	NW	32	14.3	.....	1k	0	W	.....	0.09	2.3	Clear	
San Francisco, California	29.81	757.2	29.88	758.9	44	6.7	84	S	4	1.8	.....	0	0	.....	.....	0.64	16.3	Clear	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	15	— 9.4	48	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Savannah, Georgia	30.21	767 3	30.31	769.9	63	17.2	89	W	5	2.2	.....	.....	10s	.....	W	0.09	2.3	Cloudy	
Shreveport, Louisiana	30.25	768.3	30.48	774.2	40	4.4	65	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.20	767.1	30.23	767.8	60	15.6	94	W	4	1.8	.....	10k	Fog	W	.....	0.05	1.3	Cloudy	
Socorro, New Mexico	25.50	647.7	29.56	750.8	30	— 1.1	68	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	30.02	762.5	30.76	781.3	23	— 5.0	73	NW	4	1.8	.....	1c	2s	W	W	0	0	Fair	
Springfield, Massachusetts	29.96	761.0	30.10	764.5	30	— 1.1	57	W	10	4.5	.....	0	5ks	.....	W	0.12	3.0	Fair	
Stockton, Texas	27.27	692.6	30.27	768.8	34	1.1	25	Calm	0	0	.....	0	c	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.92	760.0	29.98	761.5	32	0.0	79	NW	31	13.9	.....	0	0	.....	.....	0.36	9.1	Clear	
Toledo, Ohio	29.84	757.9	30.59	777.0	18	— 7.8	53	NW	16	7.2	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Tucson, Arizona	27.63	701.8	30.18	766.6	43	6.1	58	S	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.65	753.1	30.17	766.3	27	— 2.8	82	E	4	1.8	.....	0	5s	.....	.....	0.04	1.0	Fair	
Uvalde, Texas	29.43	747.5	30.27	768.8	49	9.4	51	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.24	768.1	30.51	774.9	42	5.6	58	NE	8	3.6	.....	.....	10s	.....	.....	0.09	2.3	Cloudy	
Virginia City, Montana	24.08	610.4	29.51	749.5	17	— 8.3	51	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.60	751.8	29.97	761.2	46	7.8	80	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.22	767.6	30.34	770.6	36	2.2	45	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	88	W	.....	.....	1	0	0	.....	.....	0.26	6.6	Clear	
Wilmington, North Carolina	30.18	766.6	30.26	768.6	55	12.8	80	N	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Winnemucca, Nevada	25.37	644.4	29.73	755.1	33	0.6	79	W	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Wood's Holl, Massachusetts	29.99	761.0	30.00	762.0	36	2.2	70	NW	26	11.6	.....	0	0	.....	.....	0.15	3.8	Clear	
Yankton, Dakota	29.28	743.7	30.75	781.0	10	—12.2	79	SE	13	5.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Yuma, Arizona	29.93	760.2	30.09	764.3	38	3.3	63	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	22.03	559.6	.....	.....	57.5	14.2	75	Calm	.....	.....	0	4k	2ks	.....	.....	0.03	0.8	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	73	22.8	.....	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Cloudy	F. M. Everett.
Navassa, W. I.	30.07	763.8	30.15	765.8	76	24.4	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	77	25.0	86	E	.....	.....	2	5k	4s	E	.....	0	0	Fair	Francesco J. Cisneros.
PuertoBerrio, U.S.Colombia	29.46	748.3	30.01	762.2	78	25.6	80	N	.....	.....	2	.....	2ks	.....	.....	0	0	.....	Robert Mason.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
York Factory, B. A.	30.30	769.6	30.35	770.9	—21.0	—29.4	.....	SW	11	4.9	.....	3k	2s	SW	SW	0	0	Fair	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are as: Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,338.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.41‡	772.4‡	.....	.....	62	16.7	88	NW	2	0.9	.....	.....	10	.....	NW	1.67	42.4	.....	.....	Thunder-storm.	
Navy Yard, Portsmouth, N.H	29.95‡	760.7‡	.....	.....	32	0.0	79	NW	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan	30.22‡	767.6‡	.....	.....	37.5	3.1	91	N	.....	.....	6	.....	10n	.....	NNE	0.75	19.1	.....	.....	Raining	
Adams, N. 18° 38′, W. 104° 22′	30.00‡	762.0‡	.....	.....	74	23.3	90	WNW	.....	.....	1–2	.....	5	.....	NNW	.....	.....	Smooth	NNW	Cloudy	
Colorado, New York, N. Y.	30.14‡	765.5‡	.....	.....	34	1.1	.....	NW	11.3	5.1	.....	.....	2	.....	NW	0.09	2.3	.....	.....	Clear	
Constitution, Aspinwall, Panama	29.99‡	761.7‡	.....	.....	78	25.6	86	NNE	.....	.....	6	.....	4	.....	NNE	.....	.....	Long	NNE	Clear	
Enterprise. Villafranca, France	30.10‡	764.5‡	.....	.....	59	15.0	76	SE	.....	.....	2	.....	6	.....	SSE	.....	.....	Long	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.31‡	769.9‡	.....	.....	45	7.2	41	WNW	13.2	5.9	.....	.....	5	.....	NW	0.09	2.3	.....	.....	Fair	
Independence, Mare I'd, Navy Yard, Cal.	29.88‡	758.9‡	.....	.....	43	6.1	92	SSE	1.2	0.5	.....	.....	1	.....	.....	0.273	6.94	.....	.....	Clear	
Kearsarge, Boca del Toro, Chiriqui	30.09‡	764.3‡	.....	.....	73	22.8	85	WSW	.....	.....	1–2	.....	8	.....	SW	.....	.....	Smooth	.....	Cloudy	
Lackawana, Navy Yard, Mare I'd., Cal.	30.04‡	763.0‡	.....	.....	48	8.9	92	SSE	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Fair	
Marion, Flores Isl., Uruguay	30.08‡	764.0‡	.....	.....	72	22.2	85	N	.....	.....	2	.....	8	.....	Var.	Light	Light	Smooth	.....	Cloudy	
Michigan, Erie, Pa.	30.46‡	773.7‡	.....	.....	19	— 7.2	69	NW	.....	.....	5	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	30.10‡	764.6‡	.....	.....	43	6.1	92	N	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
New Hampshire, Port Royal, S. C.	30.27‡	768.8‡	.....	.....	63	17.2	94	NW	9	4.0	.....	.....	10	.....	Calm	0.03	0.8	.....	.....	Overcast	
Nipsic, N. 20° 16′ W. 65° 57′	30.16‡	766.1‡	.....	.....	74	23.3	76	ENE	.....	.....	4	.....	2	.....	ENE	.....	.....	Long	ENE	D. clouds	
Onward, Callao, Peru †	29.93‡	760.2‡	.....	.....	74	23.3	81	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Mod'ate long	W	Fair	
Palos, Tientsin, China	30.23‡	767.8‡	.....	.....	42	5.6	83	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.30‡	769.6‡	.....	.....	37	2.8	81	W	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 2° 40′, W. 81° 18′	29.93‡	760.2‡	.....	.....	78	25.6	86	NW	.....	.....	1–2	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Norfolk, Va.	30.29‡	769.4‡	.....	.....	46	7.8	62	N	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Quinnebaug, Leghorn, Italy	30.08‡	764.0‡	.....	.....	59	15.0	70	WSW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Richmond, Hong-Kong, China	29.96‡	761.0‡	.....	.....	59	15.0	100	WNW	.....	.....	2	.....	10	.....	.....	0.02	0.5	Smooth	.....		
Rio Bravo, Brownsville, Texas †	30.49‡	774.4‡	.....	.....	50	10.0	93	NW	5	2.2	.....	.....	10	.....	N	0.07	1.8	.....	.....	Cloudy	
Santee, Annapolis, Md	30.27‡	768.8‡	.....	.....	39	3.9	64	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	30.08‡	764.0‡	.....	.....	73	22.8	85	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	30.24‡	768.1‡	.....	.....	34	1.1	61	WNW	17	7.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Swatara, Malaga, Spain	30.18‡	766.6‡	.....	.....	62	16.7	83	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Tennessee, Norfolk, Va.	30.33‡	770.4‡	.....	.....	45	7.2	.....	N	13	5.8	.....	.....	5	.....	N;W	0.01	0.3	.....	.....	Fair	
Trenton, Toulon, France	30.06‡	763.5‡	.....	.....	65	18.3	63	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 14° 27′, W. 92° 18′	30.04‡	763.0‡	.....	.....	75	23.9	81	NE	.....	.....	2	.....	0	.....	.....	0	0	Long	S	Clear	
Wabash, Boston, Mass.	29.97‡	761.2‡	.....	.....	32	0.0	79	NW	28	12.5	.....	.....	2	.....	.....	0.12	3.0	.....	.....	Fair	
Wyoming, Naples, Italy	29.98‡	761.5‡	.....	.....	58	14.4	53	NE	.....	.....	2	.....	5	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 43° 31′, W. 59° 14′...†	29.88‡	758.9‡	44	6.7		SSW			6		10		SW			Mod'ate	SSW	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton N. 47° 40′, W. 46° 00′	30.09‡	764.3‡				N			5		2		W			Mod'ate	NNE	Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	29.16‡	740.7‡	56	13.3	87	W			5		6		W	Mod'ate	Mod'ate			Cloudy	
S. S. Ohio, Henry Morrison N. 39° 24′, W. 71° 05′...†*	30.06‡	763.5‡	47	8.3		NNW			6		8		NNW	Blank	Blank	Mod'ate	NW	Cloudy	Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger N. 26° 45′, W. 114° 08′...†.	30.28‡	769.1‡				N			4		8		NE			Mod'ate	WNW	Cloudy	
NOTE.—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 48° 50′, W. 26° 52′	29.16‡	740.77	51.0	10.6	86	W			5		5		W	1 h'r	1 h'r	Mod'ate	W	Cloudy	S. Risius.
S. S. Ohio, G. Meyer																			
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Hong Kong, China	29.96‡	761.0‡	60	15.6	100	N			3		10		N					Light rain	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.†	29.92‡	760.0‡				SW			4		8		SW	Light	Light	Smooth		Cloudy	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.
NOTE.—The originals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander, N. 35° 51′, W. 121° 25′†	29.98‡	761.6‡	52	11.1		NW			3		10		NW	Blank	Blank			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels and Captains.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 12° 01′, W. 87° 12′....†	30 01‡	762 2‡	80	26.7	91	ENE			5		2		E	0	0	Mod'ate	SW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, Nanaimo Harbor, Vancouver I'd.†	29.98‡	761 5‡	35	1.7		W			1		10							Snowing	E. Polemann.
S. S. City of Panama, M. Connolly, N. 10° 58′, W. 86° 32′.....†	29.99‡	761.7‡	75	23.9		NE			4		2		NE.	0	0	Mod'ate	NE	Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle																			
S. S. Dakota, D. E. Griffiths																			D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 33° 40′, W. 133° 47′...†	30 18*	766.6‡	49	9.4		N			5				NW			Smooth		Squally	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 40° 18′, W. 68° 59′...†.	29.99‡	761.7‡	49	9.4		WNW	4	1.8			2		WNW	0	0	High	SW	Fine	J. Farmer & W. Apetan.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 41° 37′, E. 120° 30′.....*	30.07‡	763.8‡	61	16.1		W			4		10		W			Short	WSW	Cloudy	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
Iron Cross, W. Randall, N. 23° 10′, W. 21° 50′	30.09‡	764.3‡	67.5	19.7	87	NE			4		2		ENE	0	0	Long	NW	D. clouds	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

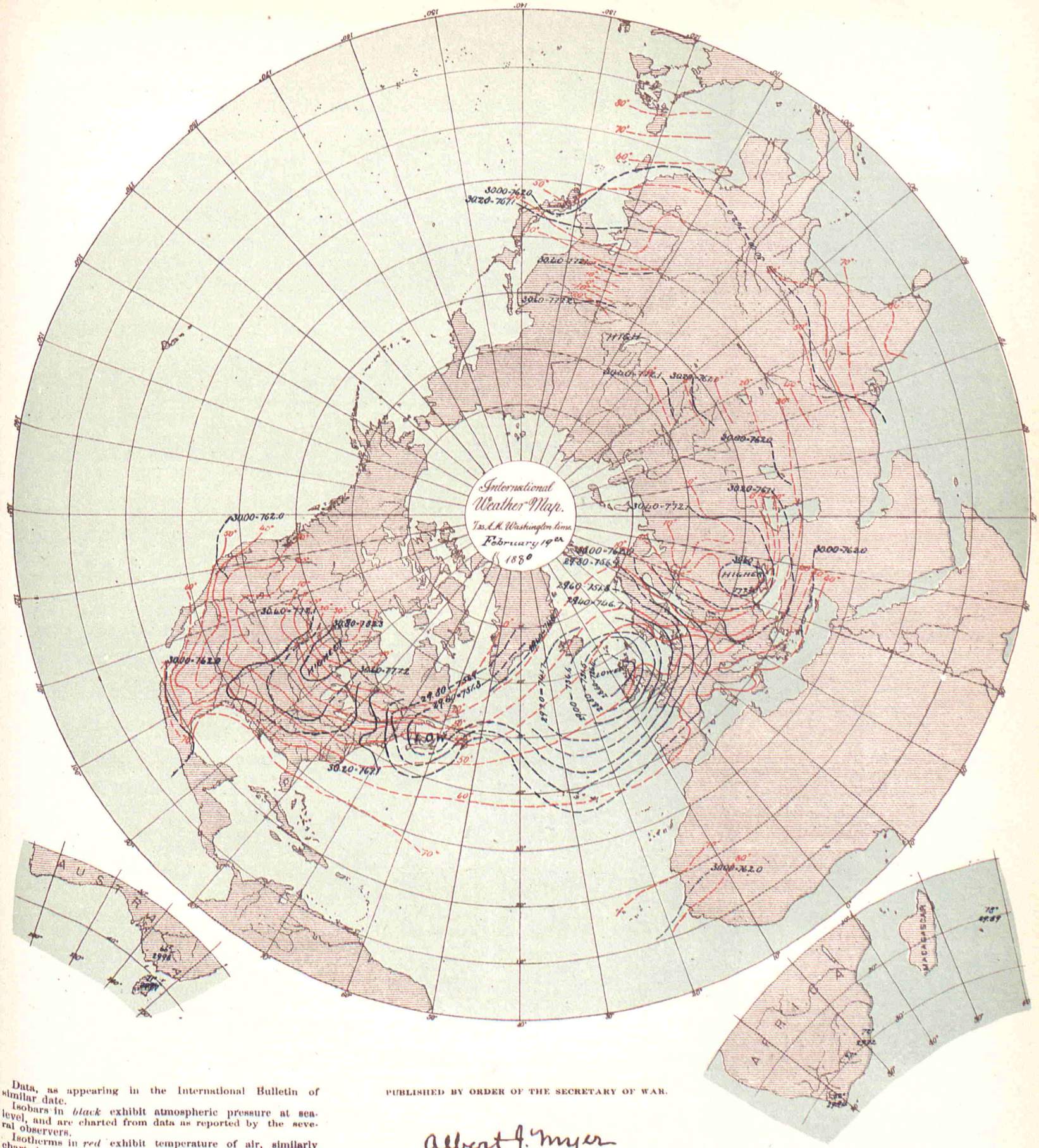
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 20, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	30.21	767.4	.....	.....	.....	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	30.23	767.8	65.8	18.8	69	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.19	766.8	66.9	19.4	41	WSW	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Tourillere.
La Calle	.....	.....	30.19	766.7	62.8	17.1	75	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.20	767.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau
Saida	.....	.....	30.20	767.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.30	769.7	70.9	21.6	21	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.34	770.6	69.4	20.8	31	SSE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.27	768.8	71.6	22.0	46	WNW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.48	748.8	30.06	763.5	32.7	0.4	90	SW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.06	738.1	29.85	758.1	39.9	4.4	71	WSW	5.8	2.6	.....	.....	10	.....	.....	0.039	1.0	.....	Dr. Wierzbicki.
Eperies	29.17	741.0	30.11	764.8	26.6	— 3.0	83	S	.....	.....	4	.....	10ms	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.73	729.7	30.03	762.7	36.3	2.4	90	WSW	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	Andreas Rospini.
Hermannstadt	28.68	728.4	30.19	766.9	28.8	— 1.8	78	SE	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.53	724.6	29.91	759.7	37.4	3.0	93	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	The Staff.
Lemberg	28 89	733.7	29.89	759.3	23.7	— 4.6	81	SE	.....	.....	1	.....	9	.....	.....	0.067	1.7	.....	Dr. T. Stanecki.
Pola	29.97	761.1	30.08	764.0	46.9	8.3	38	W	.....	.....	1	.....	Fog	.....	.....	0	0	.....	I.R. Hydrographic Office.
Szathmar	29.75	755.7	30.24	768.2	30.6	— 0.8	92	SE	.....	.....	3	.....	4	.....	.....	0.039	1.0	.....	Pet. Pancsics, S. J.
Szegedin	29.84	758.0	30.06	763.5	30.6	— 0.8	.....	S	.....	.....	5	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.97	761.3	30.08	763.9	49.5	9.7	78	WNW	.....	.....	1	.....	3	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.27	743.6	30.00	762.1	28.4	— 2.0	96	SE	.....	.....	2	.....	10	.....	.....	0.035	0.9	.....	I.R. Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.40	746.7	29.60	751.7	50.0	10.0	89	SW	.....	.....	3	.....	10	.....	SW	0.471	11.95	Light rain	Royal Observatory.
Furnes	29.54	750.2	29.56	750.8	51.4	10.8	80	SW	.....	.....	5	.....	10	.....	.....	0.028	0.7	.....	M. E. de Cae.
Maeseyck	29.48	748.8	29.61	752.0	53.2	11.8	67	SW	.....	.....	8	.....	10	.....	.....	0.252	6.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	28.83	732.3	28.93	734.8	49.4	9.7	.....	SW	13	5.8	.....	.....	6	.....	.....	& 0	0	D. clouds	W. Boswell.
Ardrossan	29.04	737.6	29.06	738.1	47	8.3	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	G.Carrick.
Armagh, (Observatory)	28.94	735.1	29.18	741.1	48.0	8.9	.....	WSW	9	4.0	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.18	741.1	50.9	10.5	.....	WSW	35	15.6	.....	.....	6	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton (Sharples)	28.69	728.7	29.10	739.1	47.6	8.6	.....	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	28.79	731.3	29.18	741.1	48.2	9.0	82	NW	.....	.....	3	.....	6	.....	.....	0.34	8.6	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	78	25.6	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.27	743.4	29.36	745.7	51.4	10.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	H. Todd.
Cardington	.....	.....	29.33	745.0	50.0	10.0	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Showery	John McLaren.
Chatham (School M. E.)	29.34	745.2	29.47	748.5	51.1	10.6	.....	SW	.....	.....	2	.....	8k	.....	.....	.....	.....	Overcast	Lance Corp'l Hocker, R. E.
Dorghadee	29.10	739.1	29.15	740 4	50	10.0	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.46	748.3	29.49	749.0	47	8.3	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth (Observatory)	29.30	744.2	29.53	750.0	52.5	11.4	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, Natal	27.64	702.0	29.86	758.4	72.8	22.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.84	757.9	84	28.9	.....	NW	.....	.....	0	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.21	741.9	51	10.6	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	M J. O'Donaghue.
Gibraltar, Mediterranean §	30.10	764.5	30.15	765.8	64.2	17.9	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	28.84	732.5	29.04	737.6	47.7	8.7	.....	SW	.....	.....	4	.....	10k	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.34	745.2	29.36	745.5	52	11.1	.....	WSW	.....	.....	5	.....	5	.....	.....	.....	.....	Squally	G. T. Watson.
Greenwich (Royal Obs'y)	29.27	743.4	29.44	747.8	53.3	11.8	.....	SW	.....	.....	.....	.....	8	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.40	746.7	29.62	752.3	51.5	10.8	.....	SW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.72	754.9	29.84	757.9	54	12.2	.....	SW	.....	.....	7	3ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.16	740.7	29.22	742.2	49	9.4	.....	WSW	.....	.....	5	.....	6	.....	.....	Blan	Blank	D. clouds	John Tilston.
Jersey	29.39	746.5	29.68	753.9	50.0	10.0	.....	WSW	.....	.....	6	.....	7	.....	.....	Blank	Blank	Squally	J. Fisher.
Kew (Observatory)	29.40	746.7	29.44	747.8	52.4	11.3	.....	SW	31	13.9	.....	.....	10n	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester (Museum)	29.05	737.9	29.30	744.2	51.6	10.8	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.10	764.5	30.18	766.6	61	16.1	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	A. King.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Penny.
Nassau, Bahamas	.....	.....	30.19	766.8	71.0	21.7	.....	SE	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.08	738.6	29.27	743.4	52.7	11.5	.....	SW	.....	.....	5	.....	8kd	.....	SW	0.047	1.20	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.78	731.0	29.29	744.0	51.0	10.6	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.17	740.9	29.43	747.5	49	9.4	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	The Staff, for E. J. Stone, Esq
Plymouth	29.43	747.5	29.51	749.5	52.0	11.1	.....	SW	.....	.....	5	.....	4	.....	.....	.....	.....	Squally	John Merrifield.
*Roche's Point	29.25	742.9	29.33	745.0	48	8.9	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Wm. Kennedy.
St. Ann's Head	29.21	741.9	29.36	745.7	47	8.3	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.83	732.3	45	7.2	.....	WSW	20	8.9	.....	.....	1	.....	.....	.....	.....	Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.16	766.1	30.23	767.8	39.4	4.1	.....	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Serg't W. H. Lyne.
Sheffield	28.97	735.8	29.21	742.7	50.4	10.2	.....	SW	.....	.....	5	.....	7	.....	.....	0.19	4.8	Showery	W. F. Cooper.
Silloth Rectory	29.08	738 6	29.11	739.4	45.3	7.4	80	SW	.....	.....	4	.....	5	.....	.....	0	0	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.19	741.4	47.0	8.3	.....	SW	22	9.8	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.23	742.4	29.44	747.8	53.1	11.7	.....	W	.....	.....	5–6	.....	8	.....	.....	.....	.....	Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.50	749.3	29.55	750.6	56	13.3	.....	SW	.....	.....	8	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.26	743.2	29.28	743.7	50.2	10.1	.....	W	13	5.8	.....	.....	5	.....	.....	Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.89	759.2	29.93	760.2	82.6	28.1	48	NNW	14.4	6.4	.....	1c	1ck	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.56	649.2	.....	.....	86	30.0	.....	NE	.....	.....	.....	3k	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.72	678.7	.....	.....	74	23.3	.....	E	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.92	760.0	68.0	20.0	68	SE	.....	.....	1	.....	5k	.....	.....	0	0	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'tl'd	.....	.....	29.05	737.9	47.9	8.8	.....	W	.....	.....	4	.....	5k	.....	.....	0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.72	754.9	29.90	759.6	80.5	26.9	63	E	20.0	8.9	.....	4	2	NW	E	0.25	6.4	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.03	762.7	30.12	765.0	66.8	19.3	76	SSE	7	3.1	.....	.....	9	.....	.....	0	0	Fine	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	28.96	735.6	47	8.3	.....	NW	.....	.....	4	5	5	NW	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	28.75	730.2	.....	.....	.....	S	.....	.....	4	4	6	S	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 29° 16′ W. 22° 58′	.....	.....	30.18‡	766.6‡	77.2	25.1	.....	NE	.....	.....	4	.....	3	.....	.....	.....	S	D. clouds	Capt. Thos. Young.
City of Cashmere, S. 6° 32′, W. 33° 32′	.....	.....	29.96‡	761.0‡	80.8	27.1	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Capt. W. M. Grieve.
S. S. German, S. 32° 58′, E. 17° 04′	.....	.....	29.80‡	756.9‡	60	15.6	.....	NNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 29° 58′ E. 39° 02′	.....	.....	30.04‡	763.0	85	29.4	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Bute Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.28	667.5	30.00	762.0	60.4	15.8	69	NE			6		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

[Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.24	742.7	29.29	743.9	38.5	3.6	92	WSW			2		10					Rain & fog.
Faröe	29.19	741.5	29.21	742.0	40.8	4.9	97	WSW			6		9					
Godthaab (Greenland)	28.95	735.3	28.99	736.4	27.1	— 2.7	96	ENE			4		10					
Stykkisholm (Iceland)	29.46	748.2	29.50	749.3	37.8	3.2	98	NE			7		5					
Thorshavn (Faröe)	28.80	731.5	28.84	732.4	45.7	7.6	82	NE			3		8					
Vestervig	28.99	736.3	29.10	739.1	38.3	3.5	100	SSW			6		10					
																		Rain & fog

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.27	743.4	29.82	757.4	55.4	13	66	SW			6		5	W	SW	0.748	19.0	Squally	Collignon, Director.
Amiens, Normal School	29.56	750.8	29.67	753.5	55.8	13.2	90	SW			3		E		E	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.39	746.6	29.65	753.2	49.6	9.8	95	W			6		10n		NW	0.472	12.0	Raining	Klein, Commandant.
Avignon, Normal School	30.03	762.7	30.11	764.7	58.5	14.7	61	E			1		10			0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.32	744.8	29.88	758.9	55.2	12.9	59	SW			3		8n		SW	0.063	1.6	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.47	748.4	29.73	755.1	53.8	12.1	73	W			3		8		W	0.39	10.	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.10	739.0	29.99	761.7	52.3	11.3	71	S			3		10		SW	0.571	14.5	Covered	A. Carré, Director.
Bordeaux	29.84	757.9	30.04	762.9	54.5	12.5	73	SSW			1		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.21	741.9	30.12	765.0	54.0	12.2	74	W			2		n		SW	0	0		Marlot, Director.
Bourges, Normal School	29.45	748.0	30.00	762.0	55.4	13	77	WSW			4		5ks		WSW	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.51	749.5	29.75	755.7	54.3	12.4	87	SW			4		5		SW	0.098	2.50	Squally	Ch. de Rermaree, Dir
Caen, Normal School	29.59	751.6	29.67	753.5	55.4	13.0	77	SSW			3		5		SW	0.39	10.	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.63	752.6	30.04	763.1	59.0	15	68	E			1		2		W	0	0	Slightly cl'y	September, Director.
Châlons-sur-Marne, N. Sch'	29.46	748.2	29.77	756.2	55.6	13.1	68	SSW			4		8	NE	NE	0	0	Very cloudy	Jadot, Director
Chartres, Normal School	29.23	742.4	29.79	756.7	56.4	13	93	SW			3		2	NE		0	0		E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.63	727.3	29.98	761.5	57.2	14.0	57	WSW			1		8		W	0	0		Alluard, Director.
Commercy, Normal School	28.98	736.0	29.88	757.7	52.9	11.6	67	WSW			7		5kn	WSW	WSW	0.020	0.5	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.99	736.4	30.13	765.4	59.2	15.1	56	N			1		5		SW	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.30	744.3	30.08	764.0	53.2	11.8	65	W			1		cs	SE		0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.75	755.7	29.97	761.2	55.0	12.8	93	S			3		8		S	0.150	3.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.54	750.2	29.85	758.1	48.2	9	84	SSW			6		8		SSW	0.150	3.8	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.0	30.02	762.5	50.2	10.1	74	S			1		10cn		SW	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.73	755.1	29.84	757.9	54.7	12.6	82	SW			4		8		SW	0.354	9.0	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.40	746.8	30.01	762.3	62.2	16.8	58	SSW			1		cn		SW	0	0		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.78	756.4	30.05	763.2	60.6	15.9	81	WNW			1		7		W	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.83	732.3	29.87	758.8	51.1	10.6	80	SW			4		10			0.220	5.6	Covered	Barbier, Director.
Mont-Louis	24.86	631.5	30.18	766.5	47.1	8.4	47	SW			3		3		SW	0	0		M. Cave, for Dr. Fines.
Nice	30.05	763.2	30.08	764.1	57.2	14.0	78	Calm			0		10	Calm	Calm	0	0	Covered	Capt. Boissière, Director.
Nismes, Normal School	29.86	758.4	30.06	763.5	62.4	16.9	72	SE			1		2		E	0	0	Slightly cl'y	M. Boyer, Director.
Perpignan	29.98	761.6	30.09	764.3	55.8	13.2	68	NE	3.8	1.7			7	W		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.55	572.8			39.6	4.2							1		SW	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.02	737.2	30.09	764.2	57.2	14	67	NW			1	c		S	S	0	0		M. Tallien
Puy de Dome (Summit) Obs	25.09	637.3			36.1	2.3	98	WSW			6		Fog			0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.02	762.5	30.05	763.3	58.1	14.5	80	SW			3		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.63	752.5	29.71	754.7	56.3	13.5	58	SSW			4		5		SW	0.661	16.8	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.68	753.9	29.71	754.7	55.9	13.3	62	SW			7		5	SW	SW	0.119	3.03	Cloudy	Lt. Herconet, Director
Saint Maur (near Paris)	29.61	752.2	29.78	756.4	57.2	14.0	56	SW			4		8		WSW	0.067	1.7	Very cloudy	E. Renou, Director.
Tarbes, Normal School	29.00	736.5	30.06	763.4	60.2	19	63	SW			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.39	746.6	30.12	765.0	59.4	15.2	78	SSE			1		2			0	0	Slightly cl'y	B. Bailland, Dir.
Tours	29.69	754.2	29.89	759.2	58.1	14.5	65	W			4		8		WNW	0.165	4.2	¾ covered	M. de Tastes.
Versailles, Observatory	29.28	743.6	29.77	756.2	55.4	13.0	57	W			4					0.057	1.45		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.30	744.1	30.00	762 1	57.6	14.2	92	NNE			1		5		W	0.020	0.5	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.2	30.04	762.9	73.8	23.2										0.79	20.		L'Abbé Marchésl
Paris, Montsouris Obs'y	29.49	749.1			55.6	13.1	63	SW			4		4		WSW	0.067	1.7		Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.17	766.3	30.19	766.9	39.2	4.0	92	N	7.2	3.2			10n			0.197	5.0	Raining	Marc Dechevrens, J S.

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hamberg	28.90	734.1	29.76	755.8	51.1	10.6	70	SW			8		3k	SW		0	0		Prof. Dr. Hoh.
Berlin	29.39	746.4	29.56	750.7	51.8	11.0	67	SW			8		10			0.264	6.7	Raining	Prof. Dr. Arndt.
Breslau	29.21	741.9	29.73	755.2	44.2	6.8	71	SW			5		1			0	0		Royal University Obs'y
Carlsruhe	29.39	746.5	29.81	757.2	53.6	12.0	78	SW			4		2	SW		0.232	5.9	Raining	Albert Senz.
Cassel	29.00	736.7	29.61	752.0	50.9	10.5	76	W			3		7	W		0.345	8.74		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel
Frankfort on the Main	29.44	747.7	29.81	757.1	53.8	12.1	53	SW			5		8			0.020	0.5		Physical Society.
Friedrichshafen	28.50	724.0	29.96	760.9	46.9	8.3	75	WSW			4		9	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.36	745.8	29.43	747.6	48.4	9.1	86	SW			4		10			0.468	11.9	Raining	Dr. Reinhold Kleeman.
Kiel	29.33	745.0	29.35	745.4	46.9	8.3	91	SW			6		9			0.486	12.34		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.37	746.1	29.46	748.2	37.6	3.1	96	SW			6		10			0.205	5.2		Prof. E. Luther.
Köslin			29.47	748.4	41.0	5.0		SW			2		4			0.094	2.4		H. Müller.
Leipsic Observatory	29.26	743.1	29.67	753.7	53.1	11.7	63	SW			4		8	WSW		0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.36	745.8	29.59	751.5	52.3	11.3	70	WSW			4		9cks	N		0.079	2.0	Raining	Dr. Assmann.
Memel	29.34	745.3	29.39	746.4	34.0	1.1	87	Calm			0		10n					Snowing	Reinbrecht & Issermann
Munich (München)	28.07	712.9	29.91	759.6	50.0	10.0	61	W			5		10	W		0.008	0.2		Dr. C. Lang.
Neufahrwasser	29.48	748.9	29.50	749.3	41.5	5.3	84	SW			3		10			0.303	7.7		A. Lothes.
Neustadt (Palatinate)	29.25	743 0	29.78	756.3	55.0	12.8	55	W			5		4	W		0.016	0.4	Rainy	Reallehrer Dicknether.
Posen	29.36	745.8	29.65	753.2	45.7	7.6	80	SW			2		10			0.382	9.7		Prof. Dr. Magener.
Strassburg (in Alsace)	29.35	745.4	29.80	756.9	54.7	12.6	63	WSW			6		9	WSW		0.039	1.00		Imp. University Observatory.
Stuttgart	28.91	734.4	29.80	757.0	54.5	12.5	60	W			5		7	W		0 043	1.1		Prof. Dr. Schoder.
Thorn	29.46	748.3	29.65	753.0	40.8	4.9	80	SW			4		7			0.417	10.6		Dr. Cunerth.
Weissenburg (Bavaria)	28.36	720.4	29.93	760.3	49.6	9.8	72	W	7.4	3.3			8k		W	0	0		Reallehrer J. Hopfner
Wustrow	29.37	746.1	29.40	746.7	42.6	5.9	100	SSW			5		4k			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.80	756.8	30.20	767.1	43.0	6.1		NE			4.0		5					½ Clear	Dr. J F. J. Schmidt

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.01	762.2	30.06	763.5	78.0	22.8	57	WSW	23	10.3			6		WSW	0.04	1.0	D. clouds	
Deesa	29.50	749.2	29.98	761.4	74.4	23.6	35	WSW	7.9	3.5			0			0.02	0.5	Blue sky	
Bombay	29.88	758.9	29.92	759.9	75.9	24.4	60	NW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	28.03	711.9	29.88	758.8	81.3	27.4	13	NNW	24	10.7			0			0	0	Blue sky	
Belgaum	27.34	694.6	29.86	758.5	80.3	26.8	23	W	7	3.1			0			0	0	Blue sky	
Lahore	29.24	742.7	30.02	762.4	61.6	16.4	51	Calm	1.4	0.6			0			0	0	Blue sky	
Roorkee	29.05	737.8	29.99	761.7	58.8	14.9	65	NW	3.7	1.6			0			0	0		
Agra	29.44	747.7	30.02	762.6	66.3	19.1	45	W	3.5	1.6			0			0	0		
Nagpur	28.84	732.5	29.88	759.1	80.5	26.9	26	Calm	2.3	1.0			0			0	0	Blue sky	
Jubbulpore	28.54	724.8	29.83	760.3	69.9	21.1	30	NE	1.9	0.8			8		N	0	0	Overcast	
Lucknow	29.59	751.6	29.99	761.7	58.0	14.4	81	Calm	0.1	0.04			7	SSW		0	0	D. clouds	
Allahabad	29.70	754.3	30.03	762.7	60.7	15.9	74	Calm	2.3	1.0			10			0	0	Overcast	
Patna	29.78	756.4	29.97	761.2	64.0	17.8	58	WNW	1.2	0.5			10	NW	NW	0	0	Overcast	
Hazaribagh	27.93	709.4	30.02	762.6	59.8	15.4	35	NW	8.0	3.6			9			0	0	Overcast	
Cuttack	29.90	759.5	29.99	761.7	72.0	22.2	50	NW	0.7	0.3			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.6	30.01	762.2	63.9	17.7	58	WNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.57	751.2	29.98	761.4	64.4	18.0	32	N	1.0	0.4			0			0	0	Blue sky	
Chittagong	29.90	759.5	29.99	761.8	66.8	19.3	50	NW	3.7	1.6			0			0	0	Misty	
Sibsagar	29.66	753.4	30.02	762.4	60.3	15.7	83	WSW	4.3	1.9			5			0	0	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Upper 0—10.	Lower 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.64	752.9	30.07	763.6	51.3	10.7	61	S	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.54	750.3	30.08	764.0	45.0	7.2	91	S	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.3	30.09	764.2	43.5	6.4	94	SSW	1.8	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.16	740.6	30.10	764.5	41.2	5.1	94	ESE	3.1	1.4	.....	.....	6	S	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.90	759.5	30.10	764 5	52.9	11.6	43	SE	7.4	3.3	.....	.....	10	SE	.....	0.012	0.3	.....	Prof. G. M. Garibaldi.
Mondovi	28.13	714.4	30.08	764.1	48.4	9.1	52	NW	.....	.....	4	.....	5	W	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.02	762.6	30.08	763.9	39.0	3.9	93	N	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.85	758.3	30.12	765.0	58.1	14.5	62	NW	.....	.....	2	.....	11	W	.....	0	0	.....	Cav. F. Meucci
Leghorn	30.04	763 0	30.14	765.5	57.0	13.9	72	S	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.97	761.2	30.15	765.8	60.1	15.6	52	WSW	1.8	0.8	.....	.....	8	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.93	760.2	30.19	766.9	55.4	13.0	59	NNE	2.5	1.1	.....	.....	1	.....	.....	0.087	2.2	.....	Prof. C. De Giorgi.
Cosenza	29.25	742.9	30.15	765.7	57.6	14.2	76	SE	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.92	760.0	30.12	765.1	58.6	14.8	63	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	30.00	761.9	30.25	768.4	59.5	15.3	72	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.12	765.0	30.16	766 1	57.9	14.4	71	S	3.8	1.7	.....	.....	4	WSW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.63	752.5	30.16	766.1	57.0	13.9	73	SW	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.00	762.0	30.01	762.2	49.8	9.9	90	WSW	2.1	0.9	.....	.....	10n	.....	.....	0.088	2.24	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.83	757.7	30.03	762.7	49.1	9.5	92	NNE	7.8	3.5	.....	.....	10n	.....	.....	0.430	10.92	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.86	758.4	29.93	760.2	49.4	9.7	86	E	3.5	1.6	.....	.....	10s	.....	.....	0	0	Cloudy	The Staff.
Wakayama	29.93	760.2	29.99	761 7	49.1	9.5	91	NW	0.2	0.1	.....	.....	10s	.....	.....	0.100	2.54	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0	.....	.....	0	0	.....	R. Banda, C. E.
Guadalajara	25.16	639.0	30.32	770.1	40.4	8.0	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.56	623.9	30.34	770.5	34.7	12.6	78	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.83	757.7	30.10	764.4	69.7	15.4	93	W	.....	.....	1	2cs	0	SW	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.18	588.7	30.34	770.5	46.4	8.0	66	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.20	614.7	.....	.....	61.3	16.3	35	SW	.....	.....	5	0	0	.....	.....	9	0	.....	M. Fena, M. D.
Pabellon (Aguascalientes)	24.08	611.7	30.22	767.5	51.3	10.7	76	N	.....	.....	1	0	0	.....	.....	0	0	Very fine	M. V. de Leon, M. E
Puebla (Catholic Institute)	23.48	596.4	30.49	774.5	39.2	4.0	51	E	0.4	0.2	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.34	618.3	30.45	773.5	50.0	10.0	59	SE	.....	.....	1	10	0	W	.....	0	0	Covered	G. Barroeta, M. D.
Tlacotalpam	30.15	765.8	30.16	766.1	69.8	21.0	92	N	.....	.....	2	3	2	E	SW	0	0	Fair	Prof. M. M. Chazaro.
Vera-Cruz	30.22	767.6	30.25	768.3	74 3	23.5	91	NE	2.2	1.0	.....	.....	8sk	.....	N	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.67	575.8	30.39	771.8	52.3	11.3	59	E	.....	.....	1	0	0	.....	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,560.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.68	750.1	29.68	750.1	49.3	9.6	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.094	2.4	.....	
Groningen	29.36	745.7	29.41	747.1	49.1	9.5	.....	SW	.....	.....	5	.....	.....	.....	.....	0.051	1.3	.....	
Helder	29.39	746.4	29.39	746.4	45.0	7.2	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.039	1.0	.....	
Hellevoetsluis	29.49	749.1	29.49	749.1	47.8	8.8	81	WSW	.....	.....	4	.....	.....	.....	.....	0.067	1.7	.....	
Utrecht	29.47	748.4	29.51	749.6	51.3	10.7	77	SW	.....	.....	6	.....	8	.....	.....	0.055	1.4	Very cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	28.88	733.5	28.93	734.9	43.2	6.2	82	S	13.0	5.8	.....	.....	10	.....	.....	0.252	6.4	Raining	
Brönno	29.06	738.0	29.10	739.0	32.0	0.0	74	ESE	22	10	.....	.....	9	.....	.....	0	0	.....	
Christiana	28.99	736.3	29.14	740.1	31.1	— 0.5	100	NNE	0	0	.....	.....	10	.....	.....	0.303	7.7	Snowing	
Tromsö	29.26	743.3	29.31	744.4	19.4	— 7.0	68	SE	4	2	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	29.72	755.0	29.94	760.4	56.1	13.4	81	W	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.24	742.8	30.26	768.5	57.6	14.2	76	ESE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	30.04	763.0	30.13	765.2	66.4	19.1	68	WSW	7.4	3.3	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.85	758.2	30.21	767.4	58.8	14.9	76	SW	18.6	8.3	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.90	759.4	29.97	761.2	61.9	16.6	66	Calm	0	0	.....	.....	4	.....	.....	0.157	4.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction form—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. d' Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa, Quanza, Capt. Carlos Maria da Silva	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
St. Paul de Loando	.....	W	2	C. J. de Sonna Barcellos, Q. M.
Rio Duro	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sá da Bandeira	.....	.....	.....	
Sado, Capt. J. A de Brito Capello, N. 0° 27′, E. 6° 45′	.....	.....	.....	A. de Souza Roza, 2nd L't
Tejo, Capt. J. M. T. Guimaraes,	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Macao, China	.....	.....	.....	A. Terceira, 2nd Lieut.
.....	.....	.....	.....	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	

St. Paul de Loando	29.90	759.4	30.6	27.0	.....	W	.....	.....	2	.....	3	.....	W	2	W	D. clouds			
Porto Praya, Cape Verd Ids.	30.00	762.0	75.2	24.0	.....	WSW	.....	.....	1	.....	0	.....	.....	1	SW	Blue sky			
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Sado, Capt. J. A de Brito Capello, N. 0° 27′, E. 6° 45′	29.89	759.1	85.1	29.5	.....	S	.....	.....	3	.....	4	.....	SSE	2	S	D. clouds			
Tejo, Capt. J. M. T. Guimaraes, Macao, China	30.06	763.5	69.9	15.5	.....	N	.....	.....	4	.....	10	.....	N	1	.....	Rain & fog, 7 hr's rain-fall.			

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.93	760.3	29.95	760.8	9.0	—12.8	96	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.54	775.8	30.46	773.7	— 8.1	—22.3	76	W	18	8	.....	.....	3	.....	.....	.....	.....	Light clouds	Capt. Wieganow.
Barnaul	29.58	751.4	30.13	765.3	9.5	—12.5	87	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Dorpat	29.35	745.5	29.61	752.2	15.6	— 9.1	88	S	13	6	.....	.....	10n	.....	.....	.....	.....	Heavy snow	Prof. Dr. Weihrauch.
Ekaterinburg	29.16	740.6	30.24	768.2	— 3.6	—19.8	78	NNE	2	1	.....	10c	.....	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	30.04	762.9	30.34	770.6	0.3	—17.6	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.58	776.3	30.60	777.1	2.3	—16.5	80	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.58	751.2	30.28	769.2	4.3	—15.4	63	SSW	13	6	.....	.....	10kmn	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.86	758.5	30.40	772.2	— 3.1	—19.5	67	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Lugan	30.32	770.1	30.55	776.0	— 4.0	—20.0	61	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.84	758.0	30.46	773.7	0.1	—14.4	61	S	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.96	710.3	30.66	778.8	—21.6	—29.8	70	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nikolaiev	30.47	773.8	30.54	775.6	3.0	—16.1	62	ESE	4	2	.....	.....	10cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	30.07	763.8	30.33	770.4	5.0	—15.0	55	WSW	22	10	.....	.....	1k	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	29.76	755.9	29.78	756.3	14.2	— 9.9	52	SSE	34	15	.....	.....	10kmn	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.73	729.6	30.41	772.5	25.2	— 3.8	84	W	18	8	.....	.....	10	.....	.....	.....	.....	Snowing	Central Physical Obs.
Tiflis	28.83	732.3	30.35	770.9	26.6	— 3.0	46	NW	22	10	.....	.....	4ks	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.25	743.0	29.69	754.0	36.3	2.4	84	SW	22	10	.....	.....	10ks	.....	.....	.....	.....	.....	.....
Wilna	29.22	742.2	29.67	753.6	14.5	— 9.7	93	SSE	18	8	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.15	765.8	30.47	774.0	— 2.0	—19.4	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.98	761.6	30.09	764.3	55.0	12.8	75	ENE	2.6	1.17	.....	.....	3	.....	.....	0	0	Clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.01	762.3	30.07	763.7	69.3	20.7	45	W	8.4	3.75	.....	3	2	SE	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.16	689.9	.....	.....	50.7	10.4	72	SW	17.6	7.88	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martiny Perez.
Madrid, Royal Observatory	28.00	711.1	30.22	767.6	54.3	12.4	80	SW	1.5	0.67	.....	3	4	S	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.98	761.4	30.13	765.2	68.2	20.1	40	SSW	2.1	0.94	.....	1	2	ENE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.11	739.5	30.01	762.2	56.7	13.7	85	SW	13.7	6.1	.....	.....	7	.....	.....	1.193	30.3	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.15	765.7	30.21	767.4	67.8	19.9	87	Calm	0	0	.....	0	4k;sk	.....	NE	0	0	Fair	Benito Vines, S. J.
Manilla, Phillippine Island	29.92	759.9	29.97	761.2	83.3	28.5	70	SE	5.3	2.4	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.15	765.7	30.25	768.3	60.6	15.9	63	W	4.9	2.2	.....	2	3	W	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.09	764.2	30.18	766.5	75.9	24.4	74	E	11.7	5.32	.....	3c	2c	E	E	0.010	0.25	Clear	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751.2	29.61	752.2	9.7	—12.4	.....	SE	.....	.....	2	.....	10	.....	.....	0.315	8.0	.....	
Umea	29.42	747.3	29.47	748.6	15.4	— 9.2	100	ESE	.....	.....	2	.....	10	.....	.....	0.126	3.2	.....	
Hernosand	29.27	743.5	29.32	744.8	28.2	— 2.2	87	E	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	
Stockholm	29.07	738.3	29.24	742.8	34.2	1.2	96	SE	.....	.....	2	.....	10	.....	.....	0.118	3.0	Foggy	
Wisby	29.21	742.0	29.27	743.5	37.0	2.8	89	SSW	.....	.....	2	.....	10	.....	.....	0.461	11.7	.....	
Sub-Series.																			
Upsala	29.14	740.1	29.22	742.3	33.3	0.7	87	E	2.0	0.9	.....	.....	10	.....	.....	0.056	1.41	Foggy	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.1	30.01	762.8	54.9	12.7	52	SSW	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.94	719.7	29.98	761.5	51.1	10.6	62	W	.....	.....	4	.....	10	.....	.....	0.012	0.3	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.1 mm.; Thermometer, +8.6 Cent Relative Humidity, —18 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.31	769.8	37.2	2.9	96	ENE	27	12.0	.....	.....	3	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.14	765.6	56.8	13.8	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.99	761.8	59.7	15.4	79	NE	.....	.....	1	.....	9n	.....	SW	0.08	0.7	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.63	752.6	29.64	752.8	6	—14.4	.....	NW	18	8.0	.....	4ck	0	.....	.....	0	0	Fair	Hon. J. Ferguson.
Chatham, N. B	29.70	754.4	29.77	756.1	4.2	—15.4	87	W	15	6.7	.....	5c	0	W	.....	0.01	0.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.71	754.6	29.75	755.6	3.7	—15.7	82	W	18	8.0	.....	0	1s	.....	.....	0.12	3.0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.36	771.1	30.58	776.7	5.0	—15.0	94	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.51	749.5	29.70	754.4	1.5	—16.9	.....	W	.....	.....	6	0	4ks	.....	.....	0	0	Fair	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	6.8	—14.8	100	NW	42	18.8	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.93	760.2	6.6	—14.1	69	W	20	8.9	.....	.....	Haze	.....	.....	Inap.	Inap.	Hazy	Prof. Harrison.
Fort Garry, Manitoba	28.84	732.5	29.71	754.6	15.5	— 9.2	91	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.41	747.0	30.62	777.7	17.0	— 8.3	100	Calm	.....	.....	0	3cs	0	.....	.....	Inap.	Inap.	Fair	James Grant.
Halifax, N. S	29.73	755.1	29.87	758.7	10.0	—12.2	79	W	10	4.5	.....	0	4ks	.....	.....	0.010	0.25	Fair	A. Allison.
Hamilton, Ontario	30.28	769.1	30.69	779.5	14.1	— 9.9	80	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	30.27	768.8	30.65	778.5	6.5	—14.2	78	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.66	753.4	29.70	754.4	17.2	— 8.2	87	NW	12	5.4	.....	.....	10n	.....	.....	0.30	7.6	Overcast	C. H. Rigby.
Montreal, Quebec	30.30	769.6	30.52	775.2	4.0	—15.6	61	W	24	10.7	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nrson.
Norwood, Ontario	29.84	757.9	30.62	777.7	5.1	—14.9	90	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.87	758.7	30.67	779.0	— 6.0	—21.1	61	NE	8	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.89	759.2	30.66	778.7	18.1	—10.5	100	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Stanley, Ontario	29.92	760.0	30.63	778.0	17.2	— 8.2	67	NE	3	1.3	.....	2k	0	SE	.....	0	0	Clear	M. Payne.
Quebec, Quebec	29.96	761.0	30.38	770.4	— 1.0	—18.3	69	W	.....	.....	5	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
Rockliffe, Ontario	30.07	763.8	30.60	777.2	— 6.8	—21.6	100	W	2	0.9	.....	0	0	.....	.....	Inap	Inap.	Clear	W. H. McIntyre.
St. John, N. B	29.75	755.6	29.93	760.2	8	—13.3	67	NW	23	10.3	.....	1k	0	.....	.....	0	0	Fair	G. Murdock, C. E.
Saugeen, Ontario	29.83	757.7	30.62	777.7	9.9	—12.3	84	SE	12	5.4	.....	1k	0	.....	.....	0	0	Clear	Mrs. K. Stewart.
Stratford, Ontario	29.20	741.7	30.62	777.7	11.2	—11.6	90	SE	2	0.9	.....	0	2s	.....	.....	0.10	2.5	Clear	C. J. MacGregor, M. A.
Sydney, C. B	29.65	753.1	29.89	764.1	7.0	—13.9	82	W	18	8.0	.....	.....	10n	.....	.....	0.11	2.8	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	30.25	768.3	30.68	779.3	10.4	—12.0	79	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	Magnetic Observatory
Windsor, N. S	29.73	755.1	29.83	757.7	9.0	—12.8	100	NW	22	9.8	.....	5k	5n	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.43	747.5	30.61	777.5	13.4	—10.3	87	E	6	2.7	.....	0	1s	.....	.....	0	0	Clear	Professor Wolverton.
Yarmouth, N. S	29.95	760.7	30.02	762.5	14.9	— 9.5	68	NW	26	11.6	.....	.....	9s	.....	.....	Inap.	Inap.	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.31	744.5	29.57	751.1	22	— 5.6	74	W	.....	.....	.....	5k	5s	.....	.....	0.90	22.9	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.53	750.0	11.1	—11.6	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the SECRETARY OF WAR.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	30.30	769.6	30.56	776.2	12	—11.1	61	N	12	5.4		0	0			0	0	Clear	
Alpena, Michigan	29.89	759.2	30.62	777.7	5	—15.0	75	W	4	1.8		0	0			0	0	Clear.	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	29.24	742.7	30.45	773.4	37	2.8	37	E	17	7.6			10s		E	0	0	Cloudy	
Atlantic City, New Jersey	30.59	777.0	30.61	777.5	21	— 6.1	71	NW	10	4.5		Haze	0	Calm		0.24	6.1	Clear.	
Augusta, Georgia	30.34	770.6	30.55	776.0	40	4.4	39	NE	8	3.6		2cs	0	N		0	0	Fair	
Baltimore, Maryland	30.63	778.0	30.69	779.5	23	— 5.0	73	NW	6	2.7		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.57	776.5	30.59	777.0	21	— 6.1	71	NW	12	5.4		0	0			0	0	Clear.	
Bismarck, Dakota	28.02	711.7	29.85	758.9	19	— 7.2	84	NW	6	2.7		0	1s		Calm	0	0	Clear.	
Boerne, Texas	28.77	730.7	30.12	765.0	46	7.8	100	N	2	0.9			Fog		N	0	0	Dense fog	
Boise City, Idaho	27.31	693.7	30.27	768.8	25	— 3.9	81	SE	2	0.9			10s		Calm	0.04	1.0	Cloudy	
Boston, Massachusetts	30.24	768.1	30.41	772.4	16	— 8.9	66	NW	13	5.8		0	0			0	0	Clear.	
Brackettville, Texas	29.04	737.6	30.13	765.3	45	7.2	92	E	9	4.0			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.82	732.0	29.86	758.4	21	— 6.1	86	S	20	8.9		1cs	0	Calm		0	0	Clear.	
Brownsville, Texas	30.19	766.8	30.24	768.1	53	11.7	93	N	2	0.9			10s		Calm	0	0	Cloudy	
Buffalo, New York	29.88	758.9	30.66	778.7	15.5	— 9.2	74	E	3	1.3		1c	Haze	Calm	Calm	0.04	1.0	Clear	
Burkes, Arizona																			
Burlington, Vermont	30.22	767.6	30.60	777.2	10	—12.2	58	N	9	4.0		0	0			0.01	0.3	Clear	
Cairo, Illinois	30.10	764.5	30.52	775.2	30	— 1.1	68	E	8	3.6		2ck	2s	W	Calm	0	0	Fair	
Campo, California	27.42	696.5	29.99	761.7	36	2.2	90	SW	4	1.8			10s		W	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.56	776.2	30.57	776.5	34	1.1	70	NE	22	9.8		5k	0	NE		0	0	Fair	
Cape Henry, Virginia	30.61	777.5	30.63	778.0	28	— 2.2	66	N	20	8.9		0	2ks		NW	0	0	Clear	
Cape Lookout, N. Carolina	30.54	775.7	30.56	776.2	33	0.6	70	NE	28	12.5		5k	0	NE		0.02	0.5	Fair	
Cape May, New Jersey	30.57	776.5	30.60	777.2	28	— 5.0	73	NW	36	16.1		0	0			0	0	Clear.	
Castroville, Texas	29.47	748.5	30.20	767.1	48	8.9	93	N	2	0.9			10n		Calm	0.02	0.5	Light rain	
Cedar Keys, Florida	30.28	769.1	30.31	769.9	61	16.1	88	NE	10	4.5			10s		E	0	0	Cloudy	
Charleston, South Carolina	30.29	769.4	30.35	770.9	43	6.1	67	NE	15	6.7		0	0			0.07	1.8	Clear.	
Charlotte, North Carolina	29.68	753.9	30.56	776.2	32	0.0	50	NE	5	2.2		0	Sm'e		Calm	0	0	Clear.	
Chattanooga, Tennessee	29.64	752.8	30.50	774.7	33	0.6	51	NE	6	2.7		1cs	0	NW		0	0	Clear.	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	36	2.2	39	SW	15	6.7		0	0			0	0	Clear.	
Chicago, Illinois	29.79	756.7	30.54	775.7	25	— 3.9	38	S	5	2.2		0	0			0	0	Clear.	
Cincinnati, Ohio	29.91	760.5	30.66	778.7	25	— 3.9	62	SE	7	3.1		0	0			0	0	Clear.	
Cleveland, Ohio	29.87	758.7	30.69	779.5	12.5	—10.8	61	SE	4	1.8		8k	0	E		Inap.	Inap.	Fair	
Coleman City, Texas	28.41	721.6	30.15	765.8	41	5.0	91	Calm	0	0			10s		Calm	0.07	1.8	Cloudy	
Columbus, Ohio	29.74	755.4	30.68	779 3	18	— 7.8	53	SE	5	2.2		0	Fog		Calm	0	0	Clear.	
Concho, Texas	28.34	719.8	30.08	764.0	42	5.6	91	NE			1		10ks		Calm	0	0	Cloudy	
Corsicana, Texas	29.82	757.4	30.30	769.6	48	8.9	63	SE	4	1.8			10s		Calm	0.02	0.5	Cloudy	
Davenport, Iowa	29.78	756.4	30.49	774.4	20	— 6.7	70	SE	4	1.8		0	0			0	0	Clear.	
Dayton, Washington T'y					20	— 6.7	85	E			1		Fog		Calm	0	0	Foggy	
Deadwood, Dakota	25.25	641.3			23	— 5.0	60	Calm	0	0		0	0			0	0	Clear.	
Decatur, Texas	29.09	738.9	30.32	770.1	44	6.7	68	E	4	1.8			10s		S	0	0	Cloudy	
Delaware Breakwater, Del	30.59	777.0	30.61	777.5	27	— 2.8	76	N	27	12.1		0	0			0	0	Clear.	
Denison, Texas	29.51	749.5	30.34	770.6	39	3.9	91	SE	8	3.6			10s		Calm	0.17	4.3	Cloudy	
Denver, Colorado	24.71	627.6	29.93	760.2	24	— 4.4	61	SW	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.38	746.2	30.33	770.4	23	— 5.0	73	S	6	2.7			10s		S	0	0	Cloudy	
Detroit, Michigan	29.91	759.7	30.66	778.7	16	— 8.9	83	NW	2	0.9		0	2s		Calm	0	0	Clear.	
Dodge City, Kansas	27.42	696.5	29.81	757.2	30	— 1.1	68	N	12	5.4			10s		Calm	0	0	Cloudy	
Dubuque, Iowa	29.69	754.1	30.46	773.7	17	— 8.3	67	SE	7	3.1		10cs	Haze	Calm	Calm	0	0	Cloudy	
Duluth, Minnesota	29.41	747.0	30.14	765.5	14	—10.0	82	SW	1	0.4		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.55	750.6	30.20	769.6	54	12.2	61	E	4	1.8			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.92	760.0	30.06	762.0	11	—11.7	49	NW	22	9.8		0	0			0	0	Clear.	
Edinburg, Texas					50	10.0	93	N			1		10s		Calm	Inap.	Inap.	Cloudy.	
El Paso, Texas																			
Erie, Pennsylvania	29.88	758.9	30.67	779.0	22	— 5.6	72	N	4	1.8			10s		NW	Ina	Inap.	Cloudy	
Escanaba, Michigan	29.76	755.9	30.49	774.4	11	—11.7	60	SW	9	4.0			10s		SW	0	0	Cloudy	
Florence, Arizona	28.57	725.7	30.17	766.3	50	10.0	70	S	1	0.4		0	8ks		S	0	0	Fair	
Fort Apache, New Mexico					24	— 4.4	61	E	2	0.9		0	0			0	0	Clear.	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.81	706.4	29.79	756.7	8	—13.3	89	NW	4	1.8		0	0			0	0	Clear.	
Fort Custer, Montana	26.83	681.5			17	— 8.3	67	SW	4	1.8		0	0			0	0	Clear.	
Fort Davis, Texas	25.29	642.4	30.25	768.3	35	1.7	70	SE	1	0.4		1cs	0	Calm		0	0	Clear.	
Fort Gibson, Indian Ter	29.77	756.1	30.34	770.6	36	2.2	80	SE	8	3.6			10n		Calm	0.02	0.5	Light rain	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	45	7.2	84	SE	6	2.7			10s		Calm	0	0	Cloudy	
Fort Griffin, Texas	28.96	735.6	30.27	768.8	45	7.2	68	SE	6	2.7			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.25	692.1			18	— 7.8	67	SW	10	4.5		0	0			0	0	Clear	
Fort McKavett, Texas	27.91	708.9	29.93	760.2	42	5.6	83	E	4	1.8			10s		E	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	29.01	736.8	30.17	766.3	40	4.4	82	SE	13	5.8			10s		Calm	0.05	1.3	Cloudy	
Fort Stevenson, Dakota																			
Fort Verde, Arizona					29	— 1.7	45	SW			1	0	0			0	0	Clear.	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.33	719.6	29.94	760.5	43	6.1	51	SE	1	0.4			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.24	768.1	30.29	769.4	56	13.3	94	E	14	6.3			10s		E	0.02	0.5	Cloudy	
Grand Haven, Michigan	29.85	758.2	30.58	776.7	13	—10.6	81	SE	6	2.7		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.28	743.7	30.27	768.8	40	4.4	91	S	8	3.6			10s		S	0.01	0.3	Cloudy	
Indianapolis, Indiana	29.71	754.6	30.57	776.5	22	— 5.6	72	SE	4	1.8		0	0			0.04	1.0	Clear.	
Indianola, Texas	30.23	767 8	30.26	768.6	55	12.8	93	NE	16	7.2			10s		Calm	0.02	0.5	Cloudy	
Jacksboro, Texas	29.04	737.6	30.19	766.8	50	10.0	86	N	6	2 7			10s		N	0	0	Cloudy	
Jacksonville, Florida	30.34	770.6	30.37	771.4	57	13.9	75	NE	12	5.4			10s		NE	0.14	3.6	Cloudy	
Keokuk, Iowa	29.74	755 4	30.41	772.4	22	— 5.6	79	SE	7	3.1		0	2s		Calm	0	0	Clear.	
Key West, Florida	30.20	767.1	30.24	768.1	72	22.2	80	NE	12	5.4		0	0			0	0	Clear.	
Kittyhawk, North Carolina	30.59	777.0	30.62	777.7	30	— 1.1	76	NE	30	13.4		5k	0	N		0	0	Fair	
Knoxville, Tennessee	29.43	747.5	30.52	775.2	29	— 1.7	67	NE	7	3.1		0	Sm'e			0	0	Smoky	
La Crosse, Wisconsin	29.58	751.3	30.38	771.6	21	— 6.1	71	S	13	5.8			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.18	665.9	30.33	770.4	47	8.3	70	SE	1	0.4			10n		Calm	0.02	0.5	Light rain	
Laredo, Texas	29.78	756.4	30.13	765.3	55	12.8	87	Calm	0	0		0	0			0	0	Clear.	
Leavenworth, Kansas	29.36	745.7	30.25	768.3	33	0.6	79	SE	10	4.5			10s			0	0	Cloudy	
Lewiston, Idaho					28	— 5.0	85	E	2	0.9		5c	0	Calm		0	0	Fair	
Little Rock, Arkansas	30.09	764.3	30.47	773.9	40	4.4	56	NE	6	2.7			10s		W	0.03	0.8	Cloudy	
Los Angeles, California	29.74	755.4	30.08	764.0	48.0	8.9	78	E	8	3.6			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.94	760.5	30.55	776.0	24	— 4.4	74	NE	10	4.5		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.94	760.5	30.69	779.5	25	— 3.9	80	NE	3	1.3		0	0			0	0	Clear.	
Madison, Wisconsin	29.38	746.2	30.46	773.7	20	— 6.7	70	S	12	5.4		8cs	0	W		0	0	Cloudy	
Marquette, Michigan	29.55	750.6	30.32	770.1	12	—11.1	61	S	18	8.0		5cs	0	SE		0	0	Fair	
Mason, Texas	28.58	725.9	30.41	772.4	42	5.6	100	SE	1	0.4			10n		Calm	0.01	0.3	Light rain	
Memphis, Tennessee	30.10	764.5	30.46	773.7	33	0.6	61	NE	7				10s		SW	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Lo'er 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	29.72	754.9	30.52	775.2	20	— 6.7	70	S	12	5.4	.....	5ck	1s	W	Calm	0	0	Fair	
Mobile, Alabama	30.34	770.6	30.38	771.6	45	7.2	61	N	6	2.7	.....	.....	10s	.....	W	0.04	1.0	Cloudy	
Montgomery, Alabama	30.16	766.1	30.41	772.4	39	3.9	63	N	5	2.2	.....	8k	0	NW	.....	0	0	Fair	
Morgantown, West Virginia	29.60	751.8	30.71	780.0	19	— 7.2	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.32	592.3	29.68	753.9	—20	—28.9	63	NW	90	40.2	.....	0	0	.....	.....	0	0	Clear	
Nashville, Tennessee	29.88	758.9	30.46	773.7	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	30.43	772.9	30.56	776.2	19	— 7.2	69	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.42	772.7	30.48	774.2	19	— 7.2	61	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.31	769.9	30.37	771.4	53	11.7	48	NE	7	3.1	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Newport, Rhode Island	30.40	772.1	30.46	773.7	20	— 6.7	56	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
New River, North Carolina	.....	.....	.....	.....	30	— 1.1	59	NE	.....	.....	4	0	0	.....	.....	.....	.....	Clear	
New York, New York	30.37	771.4	30.57	776.5	19	— 7.2	69	NW	11	4.9	.....	0	Haze	....	Calm	0	0	Clear	
Norfolk, Virginia	30.59	777.0	30.66	778.7	24	— 4.4	61	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.06	687.3	29.81	757.2	14	—10.0	64	W	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter	30.27	768.8	30.31	769.9	27.0	— 2.8	94	E	2	0.9	.....	0	8s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.98	736.1	30.14	765.5	26	— 3.3	88	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.30	769.6	30.66	778.7	18	— 7.8	68	N	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pembina, Dakota	28.83	732.3	29.70	754.4	18	— 7.8	84	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.37	771.4	30.41	772.4	47	8.3	48	NE	7	3.1	.....	.....	10s	.....	N	0.95	24.1	Cloudy	
Philadelphia, Pennsylvania	30.57	776.5	30.63	778.0	22	— 5.6	58	NW	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.90	734.0	30.78	781.8	40	4.4	65	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.57	446.3	29.78	756.4	6	—14.4	28	SW	56	25.0	.....	1cs	0	.....	Calm	0	0	Clear	
Pilot Point, Texas	29.34	745.2	30.20	767.1	39	3.9	54	NE	7	3.1	.....	8k	2s	N	NE	0	0	Cloudy	
Pioche, Nevada	23.99	609.3	29.76	755.9	26	— 3.3	52	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.80	731.5	29.64	752.8	17	— 8.3	67	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Port Huron, Michigan	29.79	756.7	30.53	775.4	12	—11.1	61	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.20	767.1	30.26	768.6	17	— 8.3	51	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.22	767.6	30.30	769.6	31	— 0.6	89	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Prescott, Arizona	24.78	629.4	30.14	765.5	21	— 6.1	86	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.23	767.8	30.24	768.1	66	18.9	89	N	10	4.5	.....	1ck	1ks	Calm	NE	0	0	Clear	
Red Bluff, California	29.70	754.4	30.08	764.0	35	1.7	95	N	8	3.6	.....	0	2s	.....	W	0.55	14.0	Fair	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.91	759.7	30.59	777.0	18	— 7.8	68	SW	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Roseburg, Oregon	29.60	751.8	30.19	766.8	34	1.1	79	NW	3	1.3	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Sacramento, California	29.95	760.7	30.03	762.7	38	3.3	91	N	8	3.6	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
St. Louis, Missouri	29.88	758.9	30.51	774 9	24	— 4.4	74	E	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.26	743.2	30.14	765.5	20	— 6.7	64	S	19	8.5	.....	0	5ks	.....	S	0	0	Fair	
Salt Lake City, Utah	26.65	651.5	29.98	761.5	32	0.0	50	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.59	751.6	30.20	767.1	47	8.3	100	N	5	2.2	.....	.....	10n	.....	Calm	0.09	2.3	Light rain	
San Diego, California	30.00	762.5	30.14	765.5	49	9.4	78	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.92	760.0	30.66	778.7	21	— 6.1	71	NE	7	3.1	.....	Haze	2s	Calm	Calm	Inap.	Inap.	Fair	
Sandy Hook, New Jersey	30.54	775.7	30.57	776.5	21	— 6.1	57	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.94	760.5	30.01	762.2	43	6.1	83	NE	5	2.2	.....	0	4ks	.....	NE	0.16	4.1	Fair	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	20	— 6.7	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.38	771.6	30.48	774.2	43	6.1	59	N	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	30.14	765.5	30.37	771.4	43	6.1	75	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.52	775.2	30.55	776.0	34	1.1	52	N	13	5.8	.....	1c	0	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.49	647.4	30.55	776.0	44	6.7	60	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.80	756.9	30.53	775.4	24	— 4.4	74	SE	9	4.0	.....	1c	0	W	.....	0	0	Clear	
Springfield, Massachusetts	30.35	770 9	30.49	774.4	21	— 6.1	57	W	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Stockton, Texas	27.11	688.6	30.11	764.8	85	1.7	27	N	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.36	771.1	30.42	772.7	10	—12.2	58	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.90	759.4	30.65	778.5	20	— 6.7	56	S	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Tucson, Arizona	27.60	701.0	30.15	765.8	54	12.2	73	SE	4	1.8	.....	2k	2s	S	S	0	0	Fair	
Umatilla, Oregon	30.04	763.0	30.59	777.0	18	— 7.8	92	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.31	744.5	30.14	765.5	49	9.4	93	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.17	766.3	30.45	773.4	43	6.1	51	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.25	615.9	29.73	755.1	10	—12.2	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.57	751.1	29.95	760.7	46	7.8	96	NW	2	0.9	.....	.....	10n	.....	Calm	0.65	16.5	Light rain	
Washington, D. C.	30.56	776.2	30.68	779.3	20	— 6.7	56	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	26	— 3.3	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.48	774.2	30.57	776.5	32	0.0	50	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	25	— 3.9	87	SW	12	5.4	.....	.....	10n	.....	Calm	0.45	11.4	Light snow	
Wood's Holl, Massachusetts	30.37	771.4	30.41	772.4	18	— 7.8	68	NW	34	15.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Yankton, Dakota	28.76	730.5	30.14	765.5	20	— 6.7	80	SE	14	6.3	.....	2c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.90	759.4	30.05	763.3	40	4.4	65	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	22.00	558.8	.....	.....	59.5	15.3	74	Calm	.....	.....	0	3cs	3ks	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	71	21.7	.....	Calm	0	0	.....	8c	2s	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	30.02	762.5	30.10	764.5	75	23.9	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	80	26.7	82	NE	.....	.....	2	5k	7ks	E	.....	0.050	1.27	½ cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.45	748.0	30.00	762.0	81	27.2	76	N	.....	.....	3	.....	8s	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.12	765.0	30.18	766.6	— 8.0	—22.2	79	SW	19	8.5	.....	.....	10n	.....	W	0.11	2.8	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,577 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,100 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549(?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.98 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.40‡	772.1‡	.....	.....	48	8.9	70	NNE	5	2.2	.....	.....	10	.....	NW	0	0	.....	.....	Threatening.	
Navy Yard, Portsmouth, N. H.	30.30‡	769.6‡	.....	.....	14	—10.0	82	W	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan	30.03‡	762.7‡	.....	.....	50	10.0	79	E	.....	.....	1	.....	9ks	.....	W	0 42	10.7	.....	.....	Cloudy.	
Adams, N. 17° 28′, W. 102° 03′	30.06‡	763.5‡	.....	.....	79	26.1	82	SE	.....	.....	2	.....	5	.....	SE	.....	.....	Smooth	SE	Fair.	
Colorado, New York, N. Y.	30.53‡	775.4‡	.....	.....	20	— 6.7	.....	NNW	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Squally.	
Constitution, As inwall, Panama	30.02‡	762.5‡	.....	.....	78	25.6	86	N	.....	.....	5	.....	4	.....	N	.....	.....	Mod'ate	NNE	Clear	
Enterprise, N. 42° 20′, E. 10° 47′	30.14‡	765.5‡	.....	.....	56	13.3	87	SSE	.....	.....	3	.....	8	.....	SSE	.....	.....	Mod'ate	.....	Cloudy.	
Franklin, Off Navy Yard, Norfolk, Va.	30.63‡	778.0‡	.....	.....	26	— 3.3	75	NNW	26.4	11.8	.....	.....	2?	.....	NNE	0	0	.....	.....	Cloudy.	
Independence, Mare I'd, Navy Yard, Cal.	30.03‡	762.7‡	.....	.....	43	6.1	92	NNE	2.4	1.1	.....	.....	2?	.....	W	0.291	7.40	.....	.....	Cloudy.	
Kearsarge, *Boca del Toro, Chiriqui	30.07‡	763.8‡	.....	.....	76	24.4	73	W	.....	.....	2	.....	8	.....	W	.....	.....	Smooth	.....	Cloudy.	
Lackawana, Navy Yard, Mare I'd., Cal.	30.10‡	764.5‡	.....	.....	48	8.9	85	SSE	.....	.....	0	.....	8	.....	S	.....	.....	.....	.....	Cloudy.	
Marion, Flores Isl., Uruguay	30.03‡	762.7‡	.....	.....	70	21.1	95	Calm	.....	.....	0	.....	5	.....	Calm	0	0	Smooth	.....	Hazy.	
Michigan, Erie, Pa.	30.63‡	778.0‡	.....	.....	21	— 6.1	67	NNE	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.	
Monocacy, Shanghai, China.	30.19‡	766.8‡	.....	.....	40	4.4	91	NNE	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Rainy	
New Hampshire, Port Royal, S. C.	30.43‡	772.9‡	.....	.....	44	6.7	68	NNE	24	10.7	.....	.....	10	.....	N	0.02	0.5	.....	.....	Overcast.	
Nipsic, N. 22° 15′ W. 66° 46′	30.20‡	767.1‡	.....	.....	74	23.3	72	E	.....	.....	3	.....	8	.....	E	.....	.....	Long Mod'ate	.....	D. clouds.	
Onward, Callao, Peru	29 93‡	760.2‡	.....	.....	73	22.8	85	S	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Fair.	
Palos, Tientsin, China.	30.33‡	770.4‡	.....	.....	33	0.6	100	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.66‡	778.7‡	.....	.....	22	— 5.6	72	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 0° 41′, W. 81° 02′	29.90‡	759.4‡	.....	.....	78	25 6	91	NW	.....	....	3	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds	
Powhatan, Norfolk, Va.	30.64‡	778.2‡	.....	.....	28	— 2.2	88	NNW	.....	.....	4–5	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Quinnebaug, Leghorn, Italy	30.11‡	764.8‡	.....	.....	55	12.8	81	SSW	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Cloudy.	
Richmond, Hong-Kong, China	29.99‡	761.7‡	.....	.....	59	15.0	94	WNW	.....	.....	2	.....	10	.....	.....	0.04	1.0	Smooth	.....	Cloudy.	
Rio Bravo, Brownsville, Texas	30.42‡	772.7‡	.....	.....	52	11.1	100	NW	2	0.9	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.	
Santee, Annapolis, Md	30.66‡	778.7‡	.....	.....	23	—5.6	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Shenandoah, Montevideo, Uruguay	30.00‡	762.0‡	.....	.....	72	22.2	95	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
St. Louis, League Island, Pa.	30.56‡	776.2‡	.....	.....	22	— 5.6	.....	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Swatara, Malaga, Spain	30.18‡	766.6‡	.....	.....	61	16.1	88	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Tennessee, Norfolk, Va.	30.67‡	779.0‡	.....	.....	30	- 1.1	78	N	8	3.6	....	.....	8	.....	NE	0	0	Smooth	.....	Cloudy.	
Trenton, Toulon, France	30.06‡	763.5‡	.....	.....	62	16.7	72	Var.	.....	.....	1	.....	5	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 15° 52′, W. 93° 50′	30.00‡	762.0‡	.....	.....	78	25.6	78	NW	.....	.....	2	.....	0	.....	.....	0	0	Long	S	Clear.	
Wabash, Boston, Mass.	30.40‡	772.1‡	.....	.....	16	— 8.9	66	NW	7	3.1	.....	.....	2	.....	.....	0	0	.....	.....	Fair.	
Wachusett, Montevideo, Uruguay. †	30.52‡	775.2‡	.....	.....	72	22.2	95	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	N	Fair.	
Wyoming, Naples, Italy	30.15‡	765.8‡	.....	.....	57	13.9	69	S	.....	.....	0–1	.....	2	.....	S	.....	.....	Smooth	S	Fair.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, N. 44° 11', W. 62° 24'...†	29.79‡	756.7‡	17	— 8.3		WNW			6		10					Mod'ate	W	Cloudy	
S. S. Moravian, J. Graham																			John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 48° 30', W. 52° 30'	29.70‡	754.4‡				W			6		5		W			Mod'ate	W	Snowy	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	29.48‡	748.8‡	57	13.9	81	WSW			4		8		WSW	Mod'ate	Mod'ate			Cloudy	
S. S. Ohio, Henry Morrison, N. 40° 26', W. 64° 30'...†*	30.01‡	762.2‡	33	0.5		NW			6		8		NW	Blank	Blank	Lou.	NW	Cloudy	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES.

Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 29° 54', W. 116° 15'...†	30.34‡	770.3‡				WNW			3		10		WNW			Smooth	NW	Cloudy	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 48° 30', W. 31° 58'	29.96‡	761.0‡	47.0	8.3	62	W			3		5		W	2 h'rs	2 h'rs	Mod'ate	W	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	29.98‡	761.5‡	59	15.0	100	N			2		10		N					Misty	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal...†	30.00‡	762.0‡				NE			3		ks		E	Slight	Slight	Smooth		Gloomy	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES.

Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES.

Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal.....†	30.00‡	762.0‡	48	8.9		N			2		2		NW	0	0			Fair	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 9° 50′, W. 85° 36′.....†	29.94‡	760.5‡	81	27.2	91	ENE	.....	.....	4	.....	1	.....	E	0	0	Small	SW	Clear.....	F. A. Johnston.
S. S. China, W. B. Seabury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann, Esquimalt Harbor, Vancouver I'd.†	30.32‡	770.1‡	29	— 1.7	.....	NW	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Fair.....	E. Polemann.
S. S. City of Panama, M. Connolly, Punta Arenas, Costa Rica†	29.93‡	760.2‡	79	26.1	.....	S	.....	.....	1	.....	2	.....	S	0	0	Smooth	S	Clear.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. LeSack.
S. S. Colima, R. R. Searle....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Dakota, D. E. Griffiths	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Granada, J. M. Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. E. Griffiths.
S. S. Z alandia, R. C. Ghest.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. 31° 25′, W. 139° 10′...†	30.30‡	769.6‡	.....	.....	.....	Var.	.....	.....	2	.....	.....	.....	N	.....	.....	Mod'ate	N	Clear.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa.

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 41° 10′, W. 63° 08′...†..	29.92‡	760.0‡	32	0.0	.....	NW	7	3.1	.....	.....	8	.....	NW	.....	.....	High	NW	Snowing.....	J. Farmer & W. Apetan.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 41° 05′, E. 122° 37′.....*	30.14‡	765.5‡	63.5	17.5	.....	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Long	SW	Clear.....	B. F. Woodbury.
Brigantine George, W. H. Champlin.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Cross, W. Randall, N. 21° 43′, W. 24° 10′.....	30.02‡	762.5‡	68	20.0	84	NNE	.....	.....	4	.....	3	.....	NE	0	0	Long	NW	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

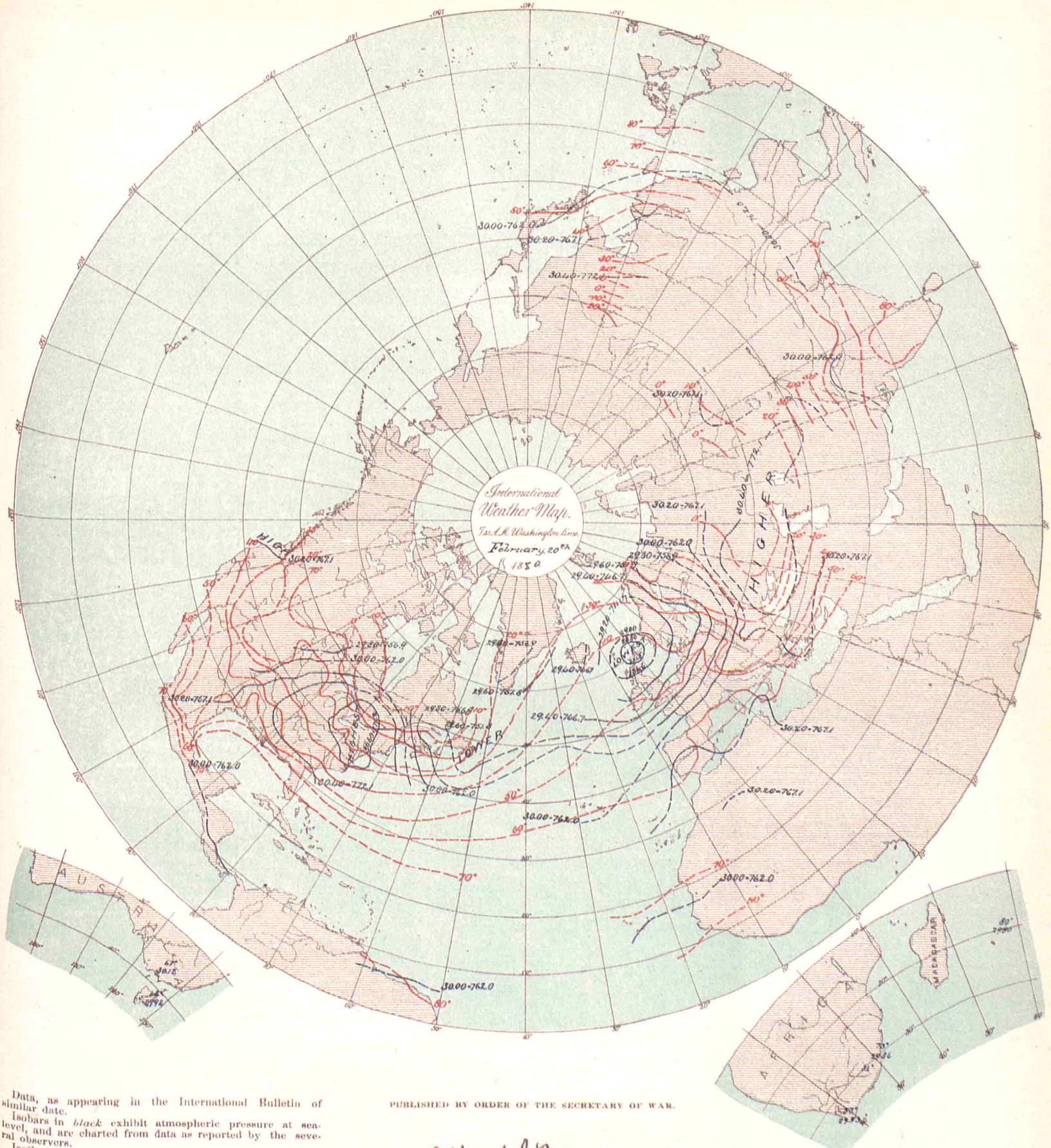
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 21, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco			30.22	767.6				N			1		1			0	0	Very fair	
Nemours			30.21	767.4	65.7	18.7	72	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30.17	766.4	63.9	17.2	68	SSW			1		0			0	0	Clear	Tourillere.
La Calle			30.17	766.3	66.7	19 3	62	W			1		4			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.24	768.0															Gau.
Saida			30.10	766.7															Herbin.
Tebessa			30.26	768.7	72.3	22.4	13	NNW			1		2			0	0	Fair	Watrin.
Geriville																			Brugniaux.
Laghouat			30.31	769.9	70.9	21.6	14	SW			2		2			0	0	Fair	Bertrand.
Biskra			30.25	768.3	70.2	21.2	48	WNW			1		4			0	0	Cloudy	Chauvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.45	748.1	30.01	762.2	50.2	10.1	76	SW			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.05	737.9	29.83	757.7	42.1	5.6	75	W	5.8	2.6			10			0.070	1.8		Dr. Wierzbicki.
Eperies	29.02	737.1	29.04	760.5	30.2	— 1.0	88	S			2		10m			0	0		Julius Mikolik.
Gratz	28.71	729.1	29.98	761.4	46.2	7.9	74	WSW			1		6			0	0		Andreas Rospini.
Hermannstadt	28.52	724.3	30.00	761.9	35.6	2.0	87	SE			1		10			0.120	3.05	Snowing	Prof. A. Gottschling
Kremsmünster, Observatory	28.60	726.4	29.95	760.8	47.5	8.6	68	WSW			4		6			0.098	2.5		The Staff.
Lemberg	28.75	730.2	29.76	756.0	35.4	1.9	88	W			2		10			0.083	2.1		Dr. T. Stanecki.
Pola	29.98	761.6	30.10	764.5	50.0	10.0	79	NW			1		9			0	0		I.R.Hydrographic Office.
Szathmar	29.58	751.2	30.07	763.6	30.7	— 0.7	96	E			3		10			0.295	7.5	Snowing	Pet. Pancsics, S. J.
Szegedin	29.73	755.1	30.02	762.5	35.2	1.8	93	S			2		10			0	0		Karl Stancel.
Trieste	30.00	762.0	30.10	764.6	46.2	7.9	92	Calm			0		5			0	0	Foggy	P. Busin.
Vienna	29.20	741.6	29.93	760.1	48.7	9.3	63	W			5		4			0.008	0.2		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.65	753.1	29.85	758.2	50.7	10.4	69	WSW			4		5		WSW	0.191	4.85	Solar corona	Royal Observatory.
Furnes	29.82	757.3	29.84	757.9	50.7	10.4	78	WSW			4		4					Light rain	M. E. de Cae.
Maeseyck	29.72	754.9	29.85	758.1	50.9	10.5	76	SW			4		10			0.185	4.7		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.38	745.0	29.42	747.5	48.0	8.9		WNW	25	11.2			4			0.045	1.15	Blue sky	W. Boswell.
Ardrossan	29.55	750.6	29.56	750.8	46	7.8		WSW			4		7					D. clouds	G.Carrick.
Armagh, (Observatory)	29.39	746.5	29.63	752.6	46.3	7.9		SW	14	6.3			2					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.69	754.1	46.4	8.0		W	22	9.8			4					D. clouds	John Hartnup.
Bolton (Sharples)	29.12	739.6	29.64	752.8	46.7	8.2		WNW	29	13.0			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.25	742.9	29.65	753.1	46.5	8.1	75	W			2		5			0.05	1.27	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	79.5	26.4		NE			2		4					D. clouds	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.66	753.4	29.76	755.9	51.0	10.6		SW			1		7					D. clouds	H. Todd.
Cardington			29.73	755.1	50.0	10.0		W			1		5					D. clouds	John McLaren.
Chatham (School M. E.)	29.66	753.4	29.79	756.7	51.1	10.6		SW			0		7k					D. clouds	Lance Corp'l Hocker, R. E.
Dorpghadee	29.59	751.6	29.68	752.6	49	9.4		WSW			2		3					D. clouds	J. Mac Gowan.
Dover	29.80	756.9	29.82	757.4	47	8.3		WSW			4		1					¼ clouded	J. Costello.
Falmouth (Observatory)	29 60	751.8	29.83	757.7	50.4	10.2		WSW			2		9					Showery	The Staff.
Fort Napier, Natal	27.55	699.8	29.77	756.1	86.7	30.4		NW			2		5					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.69	754.1	29.91	759.7	87	30.6		W			1		3k						
Galway (Queen's College)			29.61	752.1	49	9.4		WSW			3		8					Gloomy	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.09	764.3	30.14	765.5	67.0	19.4		E			1		3					Blue sky	Corp'l S. Cordne, A.H.C.
Glasgow, (Observatory)	29.33	745.0	29.54	750.3	45.9	7.7		SW			5		10k					Gloomy	D. G. Maclean.
Great Yarmouth	29.72	754.9	29.72	754.9	50	10.0		W			3		3					Blue sky	G. T. Watson.
Greenwich (Royal Obs'y)	29.61	752.1	29.78	756.4	50.7	10.4		SW					10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.64	752.8	29.86	758.4	52	11.1		SSE			4		3					D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	29.97	761.2	30.09	764.3	54	12.2		SW			2	2ck				0	0	Fine	M. P. Moyle.
Holyhead	29.63	752.6	29.69	754.1	47	8.3		WSW			3		0					Blue sky	John Tilston.
Jersey	29.62	752.3	29.91	759.7	49.2	9.6		SW			4	6c						Gloomy	J. Fisher.
Kew (Observatory)	29.75	755.6	29.79	756.7	49.3	9.6		SW	15	6.7			9					Threatening	The Met'g'l Office.
Leicester (Museum)	29.46	748.3	29.71	754.6	49.8	9.9		SW			1		9					D. clouds	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.07	763.8	30.15	765.8	65.4	18.6		W			2	2c						Blue sky	A. King.
Nairn	29.39	746.5	29.48	748.8	45	7.2		Calm			0		10					Raining	W. D. Penny.
Nassau, Bahamas			30.08	764.0	68.2	20.1		SE					8			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.52	749.8	29.71	754.6	51.2	10.7		SW			2		8k;ksqd		WSW	0.263	6.68	D. clouds	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.18	741.1	29.71	754.6	48.9	9.4		SSW			3		9					D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.54	750.3	29.79	756 7	49	9.4		S			2		10					Overcast	The Staff, for E. J. Stone, Esq
Plymouth	29.72	754.9	29.79	756.7	51.4	10.8		W			2		10					Overcast	John Merrifield.
*Roche's Point	29.68	753.9	29.76	755.9	46	7.8		WNW			3		2					¼ clouded	Wm. Kennedy.
St. Ann's Head	29.57	751.1	29.73	755.1	47	8.3		W			2		5					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.43	747.5	45	7.2		N	25	11.2			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.99	761.7	30.06	763.5	41.4	5.2		SSW			1		8			Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.42	747.3	29.70	754.4	47.0	8.3		SW			1		6			Blank	Blank	D. clouds	W. F. Cooper.
Silloth Rectory	29.58	751.3	29.61	752.1	46.1	7.8	75	W			3		0			0.174	4.42	Blue sky	Rev. F. Redford, A. M
Stonyhurst (Observatory)			29.66	753.4	44.6	7.0		WSW	18	8.0			8					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.58	751.3	29.79	756.7	49.3	9.6		W			2-3		8					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.76	755.9	29.81	757.2	54	12.2		NW			6		4					D. clouds	W. Newcombe.
Valencia Observatory)	29.75	755.6	29.78	756.4	46.1	7.8		W	19	8.5			7			Blan	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.97	761.2	30.01	762.2	74.8	23.8	44	NW	8.8	3.9		0	8ks			0	0		The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.61	650.5			73	22.8		N				0kn	9n						Robert Burnet.
Constable, Cape Colony	26.72	678.7			72	22.2		NW											Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			30.02	762.5	67.0	19.4	45	Calm			0		10k			0	0	Cloudy	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			29.25	742.9	46.8	8.2		W			3		10k			0.68	2.0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	761.0	82.1	27.8	64	ESE	13.5	6.0		1	2	NW	SE	0	0	Fine	R. L. J. Ellery.
Melbourne (Observatory)	30.08	764.0	30.17	766.3	63.0	17.2	83	SSE	3	1.3			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			29.57	751.1	47	8.3		NE			4	5	5	NE		0.2	5.		
North Unst, Shetland Is			29.44	747.8				NE			6	5	8	NE		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 26° 56′ W. 23° 45′			30.20‡	767.1‡	79	26.1		ENE			5		3					D. clouds	Capt. Thos. Young.
City of Cashmere, S. 5° 42′, W. 33° 38′			29.97‡	761.2‡	81	27.2		E			4		5					D. clouds	Capt. W. M. Grieve.
Barque Dochra, S. 33° 17′, W. 36° 47′			30.22‡	767.6‡	75	23.9		ENE			4		7			4	NE	D. clouds	Capt. N. Spalding.
S. S. German, S. 29° 30′, E. 12° 28′			30.03‡	762.7‡	66	18.9		SSW			4		6					D. clouds	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 30° 10′ E. 36° 46′			30.03	762.7‡	82.2	27.9		N			3		4					D. clouds	Capt. W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. C. M. Dobson.
S. S. Ethiopia																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Dochra																			Capt. N. Spalding.
Barque Fedalma																			Capt. H. L. Fox.
H. M. S. Alert																			Capt. J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.
S. S. Richmond																			Capt. W. H. Stuart.
Bute Fylde																			Capt. L. C. Dart.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	58.1	14.5	78	SE			3		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.42	747.2	29.47	748.4	39.6	4.2	97	W			2		10					Rain & fog	
Fanöe	29.50	749.2	29.52	749.7	41.2	5.1	94	W			4		1						
Godthaab (Greenland)	28.77	730.7	28.81	731.8	26.4	— 3.1	89	S			4		9						
Stykkisholm (Iceland)	29.79	756.7	29.84	757.8	28.0	— 2.2	90	E			2		0						
Thorshavn (Faröe)	29.67	753.5	29.70	754.4	41.7	5.4	65	NE			5		10						
Vestervig	29.32	744.8	29.43	747.6	38.7	3.7	100	SW			4		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.2	30.01	762.2	54.4	13	72	SSW			2		8		SW	0.295	7.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.80	756.9	29.91	759.7	55.0	12.8	93	SW			1		8		ENE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.63	752.7	29.89	759.3	47.8	8.8	89	W			3		n		W	0.177	4.5		Klein, Commandant.
Avignon, Normal School	30.08	763.9	30.15	765.9	63.0	17.2	44	N			1		10			0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.50	749.2	30.06	763.4	53.1	11.7	91	SW			2		8kn		W	0.039	1.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.67	753.5	29.93	760.2	52.7	11.5	82	SW			2		8		WSW	0.343	8.70	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.24	742.7	30.14	765.5	53.2	11.8	84	S			3		8		SW	0	0	Very cloudy	A. Carré, Director.
Bordeaux	29.89	759.1	30.08	764.1	58.5	14.7	61	S			1		8			0.063	1.60	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.30	744.2	30.23	767.7	54.0	12.2	74	S			1	c		W	W	0.102	2.6		Mariot, Director.
Bourges, Normal School	29.62	752.4	30.19	766.7	54.3	12.4	76	S			4		8kn		S	0.126	3.2	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.68	753.8	29.92	760.0	55.8	13.2	88	SW			2		10		W	0.079	2.00	Squally	Ch. de Rermaree, Dir.
Caen, Normal School	29.80	757.0	29.88	758.9	53.6	12.0	79	S			2		5		SSW	0.138	3.5	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.69	754.2	30.11	764.7	64.4	18	53	SE			1		2		W	0	0	Slightly cld'y	September, Director.
Châlons-sur-Marne, N. Sch'	29.69	754.1	30.01	762.2	52.3	11.3	80	SW			1		10	NE	NE	0	0	Covered	Jadot, Director
Chartres, Normal School	29.43	747.6	30.00	762.0	53.6	12	95	S			1		5	NE	SW			Light rain	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.75	730.2	30.10	764.6	56.1	13.4	62	W			2		10			0	0		Alluard, Director.
Commercy, Normal School	29.14	740.2	30.01	762.2	50.9	10.5	80	WSW			4		8n	WSW	WSW	0.421	10.7	Cloudy	Dr. Coullet, Director.
Commune de Gréasque*	29.05	737.9	30.19	766.9	62.1	16.7	50	NW			2		5		NW	0	0		Meyrol.for L. Kina, Dir.
Grenoble, Normal School	29.34	745.1	30.11	764.7	53.6	12	87	NNE			1		cs			0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.87	758.8	30.09	764.3	55.8	13.2	77	SW			1		8		SW	0.217	5.5	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.72	755.0	30.03	762.8	52.2	11.2	75	WSW			3		8		WSW	0.037	1.7	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.22	742.1	30.15	765.7	58.5	14.7	81	SSW			1	5ck		SW	S	0.087	2.20	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.87	758.8	29.98	761.6	51.8	11.0	93	SW			4		10		SW	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.52	749.7	30.13	765.4	58.8	14.9	54	E			1	9c			SW	0.024	0.6	Almost cov	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.82	757.4	30.09	764.2	65.7	18.7	67	WNW			1-2		4		NW	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.85	732.7	29.80	756.3	50.7	10.4	74	SW			4		10			0	0	Covered	Barbier, Director.
Mont-Louis	24 91	632.8	30.23	767.8	46.4	8.0	49	SW			2		3		W	0	0		M. Cave, for Dr. Fines.
Nice	30.05	763.2	30.08	764.0	58.3	14.6	80	E			3			E	E	0	0	Misty	Capt.Boissière, Director.
Nismes, Normal School	29.91	759.7	30.11	764.9	64.9	18.3	53	NW			1		2		NW	0	0	Slightly cld'y	M. Boyer, Director.
Perpignan	30.03	762.8	30.14	765.5	60.3	15.7	57	SE	5.6	2.5			2	WNW		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.59	573.9			39.2	4.0							1		SW	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.10	739.0	30.16	766.1	59.5	15.3	56	S			1	ck		S	S	0	0		M. Tallieu
Puy de Dome (Summ') Obs	25.19	639.9			34.5	1.4	96	WSW			4		10		WSW	0.079	2.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	56.3	13.5	85	SW			1		10	SW	SW	0.20	5.	Covered	Lt. E. Decante, Director
Rouen, Normal School	29.84	757.9	29.93	760.1	54.0	12.2	69	S			4		8		SW	0.232	5.9	Very cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.8	29.91	759.6	55.8	13.2	62	SW			4		8	SW	SW	0.075	1.90	Very cloudy	Lt. Herconet, Director
Saint Maur (near Paris)	29.82	757.4	29.98	761.6	52.9	11.6	79	SW			2				W	0.118	3.0		E. Renou, Director.
Tarbes, Normal School	29.07	738.3	30.13	765.4	64.4	18	62	W			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.45	748.1	30.18	766.6	58.6	14.8	77	SSE			1		5			0	0	Cloudy	B. Baillaud, Dir.
Tours	29.84	758.0	30.04	763.0	56.7	13.7	67	SW			1		8		W	0	0	¾ covered	M. de Tastes.
Versailles, Observatory	29.48	748.9	29.98	761.4	54.0	12.2	70	SW			3					0.165	4.19		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S Sub-Series.	29.41	746.9	30.12	765.0	56.3	13.5	94	SSE			1		2			0	0	Slightly cld'y	Nicot, Director.
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.2	24										0.35	9.		L'Abbé Marchést
Paris, Montsouris Obs'y	29.70	754.3			53.8	12.1	75	WSW			2		8		WSW	0.130	3.3		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.39	771.9	30.42	772.6	30.5	2.5	'82	N	6.9	3.1			10kn			0.382	9.7	Covered	Marc Dechevrens, J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.03	737.4	29.89	759.2	49.1	9.5	72	SSW			8		6n	SW		0.508	12.9	Raining	Prof. Dr. Hoh.
Berlin	29.50	749.2	29.67	753.6	48.6	9.2	79	SW			3		8			0.220	5.6		Prof. Dr. Arndt.
Breslau	29.24	742.8	29.77	756.1	43.0	6.1	90	W			3		10					Sprinkling	Royal University Obs'y
Carlsruhe	29.55	750.5	29.98	761.4	49.6	9.8	89	SW			3		8	SW		0.563	14.3		Albert Senz.
Cassel	29.18	741.2	29.78	756.5	46.0	7.8	79	W			2		7	SW		0.213	5.40		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.58	751.3	29.95	760.7	50.9	10.5	70	WSW			2		8			0.201	5.1	Raining	Physical Society.
Friedrichshafen	28.60	726.4	30.05	763.2	50.4	10.2	61	SW			5		4	SW		0.228	5.8		Chief Telegrapher Wilhelm.
Hamburg	29.59	751.5	29.66	753.3	45.3	7.4	85	WSW			3		8			0.126	3.2		Dr. Reinhold Kleeman.
Kiel	29.58	751.4	29.60	751.8	43.7	6.5	92	W			6		9			0.126	3.20		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.41	747.0	29.49	749.1	37.9	3.3	96	SW			4		10			0.508	12.9		Prof. E. Luther.
Köslin			29.52	749.8	41.2	5.1		SW			2		4			0.378	9.6		H. Müller.
Leipsic Observatory	29.35	745.6	29.78	756.3	50.0	10.0	68	SW			4		9	WSW		0.012	0.3		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.50	749.3	29.72	755.0	50.0	10.0	76	W			4		9cks	W		0.126	3.2	Raining	Dr. Assmann.
Memel	29.38	746.3	29.43	747.4	34.7	1.5	100	SW			4		10n					Rain & fog	Reinbrecht & Issermann.
Munich (München)	28.16	715.2	30.00	761.9	50.2	10.1	48	SW			6		6	NE		0.047	1.2		Dr. C. Lang.
Neufahrwasser	29.51	749.5	29.52	749.9	40.1	4.5	92	SW			3		10			0.053	1.3		A. Lothes.
Neustadt (Palatinate)	29.39	746.4	29.91	759.8	52.2	11.2	67	WSW			1		8	W		0.260	6.6	Light rain	Reallehrer Dicknether.
Posen	29.38	746.2	29.67	753.6	45.7	7.6	86	W			6		10			0.307	7.8		Prof. Dr. Magener.
Strassburg (in Alsace)	29.48	748.8	30.04	762.9	52.9	11.6	71	W			5		10	WSW		0	0		Imp. University Observatory.
Stuttgart	29.03	737.4	29.93	760.3	50.9	10.5	69	W			3		6	W		0.134	3.4	Light rain	Prof. Dr. Schoder.
Thorn	29.46	748.3	29.65	753.0	42.4	5.8	94	W			4		10			0.106	2.7		Dr. Cunerth.
Weissenburg (Bavaria)	28.50	723.9	30.08	764.0	48.4	9.1	72	W	7.4	3.3			7k		W	0.047	1.2		Reallehrer J. Hopfner.
Wustrow	29.56	750.9	29.59	751.5	38.3	3.5	98	WSW			5		10s			0.063	1.6		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.78	756.4	30.18	766.6	48.2	9.0		NE			1.0		0					Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	760.8	30.01	762.2	75.2	24.0	45	NNW	12	5.4			0			0	0	Blue sky	
Deesa	29.52	749.8	30.00	761.9	79.2	26.2	30	W	8.2	3.7			0			0	0	Blue sky	
Bombay	29.92	759.9	29.96	760.9	76.0	24.4	62	NNW	2.3	10.3			6		WNW	0	0	D clouds	
Poona (Yarrowda)	28.06	712.7	29.90	759.6	82.3	27.9	16	NW	21	9.4			4		W	0	0	D. clouds	
Belgaum	27.38	695.5	29.92	760.0	76.7	24.5	43	WSW	12	5.4			0			0	0	Blue sky	
Lahore	29.26	743.3	30.03	762.8	66.6	19.2	40	Calm	1.4	0.6			0			0	0	Blue sky	
Roorkee	29.10	739.2	30.04	763.0	62.2	16.8	51	W	2.3	1.0			0			0	0		
Agra	29.47	748.6	30.06	763.4	68.7	20.4	41	NW	2.3	1.0						0	0		
Nagpur	28.86	733.0	29.90	759.5	81.4	27.4	48	N	2.8	1.2			6		W	0	0	D. clouds	
Jubbulpore	28.60	726.3	29.99	761.7	72.3	22.9	31	ENE	2.5	1.1			9		N	0	0	Overcast	
Lucknow	29.65	753.1	30.04	763.0	65.3	18.5	52	Calm	0.4	0.2			0			0	0	Blue sky	
Allahabad	29.73	755.1	30.06	763.4	63.8	17.7	60	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.87	758.6	30.06	763.4	65.6	18.7	63	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.97	710.4	30.05	763.4	62.0	16.7	42	NW	4.3	1.9			0			0	0	Blue sky	
Cuttack	29.91	759.7	29.99	761.8	77.2	25.1	56	SSE	1.7	0.8			6			0	0	D. clouds	
Calcutta (Alipore)	30.02	762.4	30.04	763.0	67.8	19.9	65	WNW	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.65	753.0	30.05	763.3	64.8	18.2	54	NW	1.0	0.4			0			0	0	Blue sky	
Chittagong	29.94	760.5	30.04	762.9	69.0	20.6	51	Calm	4.3	1.9			0			0	0	Misty	
Sibsagar	29.74	755.4	30.09	764.3	61.9	16.6	72	ENE	1.4	0.6			8			0	0	D. clouds	

NOTE. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.5	30.08	764.1	50.7	10.4	69	S	2.5	1.1			5			0	0		Prof. Giovanni Clodig.
Milan	29.54	750.4	30.08	764.0	50.0	10.0	74	W	1.8	0.6			2	WSW		0	0		Prof. Schiaparelli.
Padua	29.97	761.2	30.08	764.1	49.8	9.6	80	SSE	0.7	0.3			6			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.5	30.08	764.1	48.7	9.3	79	ENE	0.7	0.3			1			0	0		Prof. P. F. Denza.
Genoa	29.94	760.4	30.13	765.4	55.0	12.8	85	S	2.5	1.1			10	SE		0.048	1.1		Prof. G. M. Garibaldi.
Mondovi	28.14	714.7	30.09	764.3	50.2	10.1	68	NE			2		2	W		0	0		Prof. D. C. Bruno.
Pesaro	30.03	762.8	30.08	764 1	46.2	7.9	86	N	9.4	4.2			4	NW		0	0		Prof. Luigi Guidi.
Florence	29.89	759.1	30.15	765.7	58.3	14.6	70	W			2		10	W		0	0		Cav. F. Meucci.
Leghorn	30.07	763.7	30.16	766 0	56.8	13.8	81	S	6.3	2.8			10			0	0		Prof. P. Monte.
Rome	29.98	761.5	30.16	766.1	59.7	15.4	64	SSW	3.8	1.7			4			0	0		Prof. P. S. Ferrari.
Lecce	29.83	757.6	30.09	764.2	59.5	15.3	79	SW	1.8	0.8			4	SW		0	0		Prof. C. De Giorgi.
Cosenza	29.24	742.7	30.14	765 5	60.1	15.6	75	SE	0.7	0.3			0			0	0		Prof. D. Conti.
Cagliari	29.93	760.1	30.13	765.2	63.1	17.3	57	NW			2		1	W		0	0		Prof. A. Pacinotti.
Palermo	29.93	760.3	30.19	766.8	61.0	16.1	47	Calm	0	0			3			0	0		Prof. G. Ciaccatore.
Syracuse	30.11	764.7	30.15	765.9	56.3	13.5	74	E	1.3	0.6			2	W		0	0		Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.63	752.7	30.17	766.4	56.3	13.5	74	WSW	1.3	0.6			5			0	0		Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.98	761.5	30.00	762.0	41.3	5.2	78	NNE	5.6	2.5		ck	2cs			0.290	7.37	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.04	763.0	46.0	7.8	83	N	5.6	2.5		2ck				0.130	3.30	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.66	753.3	29.73	755.1	44.2	6.8	97	N	10.2	4.6			10n			0.670	17.02	Raining	The Staff.
Wakayama	29.86	758.4	29.91	759.7	42.6	5.9	87	N	6.8	3.0		ck	10s		N	0.775	19.68	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	26.10	637.6	30.28	769.0	44.6	7.0	45	Calm			0	0	0			0	0	Fine	R. Banda, C. E.
Guadalajara	24.49	622.1	30.24	768.2	55.0	12.8	73	NW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.49	622.1	30.24	768.2	55.0	12.8	73	NW			1	0	0			0	0	Hazy	Prof. M. Leal.
Mazatlan	29.78	756.6	30.01	762.3	61.0	16.1	80	E			1	0	0			0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	28.12	587.3	30.23	767.9	48.2	9.0	72	Calm	0	0		0	0			0	0	Fine	The Staff
Morelia	24.18	614.1			61.5	16.4	42	SE			3	0	0			0	0	Very clear	M. Fena, M. D.
Pabellon (Aguascalientes)	24.02	610.1	30.07	763.8	53.2	11.8	43	NW			1	0	0			0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.49	596.7	30.51	774.9	39.2	4.0	47	E	0.4	0.2			0			0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.27	616.4	30.30	769.6	54.3	12.4	41	NE			1	1	0	W		0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	30.11	764.8	30.12	765.1	68.2	20.1	94	Calm			0	0	0			0	0	Foggy	Prof. M. M. Chàzaro.
Vera-Cruz	30.11	764.9	30.14	765.6	67.1	19.5	85	Calm	0	0			3sk			0	0	Foggy	Prof. J. Rossell
Zacatecas	22.65	575.2	30.35	771.0	52.3	11.3	49	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.84	757.9	29.84	757.9	46.6	8.1		WSW			4					0.039	1.0		
Groningen	29.65	753.0	29.70	754.4	46.8	8.2		W			2					0.051	1.3		
Helder	29.71	754.7	29.71	754.7	43.5	6.4		SW			4					0	0		
Hellevoetsluis	29.77	756.1	29.77	756.1	45.9	7.7	84	WSW			5					0	0		
Utrecht	29.75	755.7	29.80	756.9	50.5	10.3	80	WSW			4		5			0.028	0.7	Cloudy	H. v. d. Bruk.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.27	743.5	29.33	744.9	43·2	6.2	85	NNW	4.9	2.2	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.42	747.3	29.46	748.3	32.0	0.0	67	E	4	2	.....	.....	7	.....	.....	0	0	.....	
Christiana	29.25	742.9	29.40	746.7	36.7	2.6	69	NE	0	0	.....	.....	9	.....	.....	0.043	1.1	.....	
Tromsö	29.34	745.1	29.38	746.2	24.6	— 4.1	75	SW	25	11	.....	.....	10	.....	.....	0.228	5.8	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.08	764.1	30.30	769.5	56.5	13.6	71	ENE	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.21	767.3	51.1	10.6	93	ESE	2.5	1.1	.....	.....	7	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.98	761.5	30.07	763.7	68.0	20.0	40	E	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.91	759.6	30.27	768.9	58.8	14.9	65	WSW	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.18	766.6	30.25	768.4	60.8	16.0	61	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell Height scale 0–9	Sea or swell Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Q. anza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.93	760.3	80.2	26.8	.....	W	.....	.....	2	.....	2	.....	W	2	W	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.05	763.2	75.6	24.2	.....	ESE	.....	.....	1	.....	2	.....	SE	2	SE	D. clouds.....	A. de SouzaRoza, 2ndL't
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. N. 0° 27′, E. 6° 45′	.....	.....	29.90	759.5	86.0	30.0	.....	SSE	.....	.....	3	.....	8	.....	SSE	2	SSE	D. clouds.....	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.07	763.8	59.7	15.4	.....	N	.....	.....	3	.....	10	.....	N	1	.....	Rain & fog 4 hr's rain-fall]	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.62	752.4	29.64	752.9	9.0	—12.8	96	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.59	777.0	30.51	774.9	0.1	—17.7	73	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.65	753.1	30.19	766.8	11.7	—11.3	84	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.15	740.3	29.40	746.7	26.4	— 3.1	96	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.74	729.9	29.79	756.7	0.9	—17.3	85	N	18	8	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.92	759.9	30.22	767.5	2.3	—16.5	71	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.19	766.5	30.21	767.3	—21.0	— 6.1	85	ENE	9	4	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.13	739.8	29.80	756.9	22.8	— 5.1	90	SSE	7	3	.....	.....	10ks,n	.....	.....	.....	.....	Snow & fog.	Physical Cabi net.
Krotkowo*	29.78	756.5	30.31	769.9	4.6	—15.2	48	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjano w.
Lugan	30.08	764.1	30.31	769.9	2.5	—16.4	51	SE	9	4	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs
Moscow	29.30	744.1	29.89	759.3	10.6	—11.9	78	SSW	13	6	.....	.....	10s	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nertchinsk	28.10	713.6	30.78	781.8	—18.4	—28.0	79	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.03	762.7	30.10	764.5	13.8	—10.1	93	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.22	767.6	30.48	774.2	10.8	—11.8	64	WSW	22	10	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.48	748.7	29.49	749.1	15.1	— 9.4	84	SSE	16	7	.....	.....	10sn	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Tashkend	28.87	733.4	30.02	777.7	14.4	— 9.8	81	N	2	1	.....	.....	10	.....	.....	.....	.....	Snowing.....	Telch, A. M.
Tiflis	29.00	736.5	30.53	775.4	25.7	— 3.6	56	SE	4	2	.....	.....	7k	.....	.....	.....	.....	Light snow..	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.22	742.2	29.65	753.2	36.9	2.7	96	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	Raining.....	Astronomical Obs.
Wilna	29.13	739.5	29.55	750.6	35.8	2.1	98	SSW	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	29.98	761.6	30.30	769.7	0.7	—17.4	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.05	763.2	30.16	766.0	58.3	14.6	66	SE	2.2	1.00	.....	.....	1	.....	.....	0	0	Foggy	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.05	763.2	30.10	764.6	69.6	20.9	51	S	1.7	0.74	.....	3	4	W	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.6	.....	.....	51.8	11.0	83	S	9.8	4.38	.....	0	9	.....	.....	0.071	1.8	Almost cov'd	Domingo Martiny Perez.
Madrid, Royal Observatory	28.02	711.7	30.25	768.3	52.3	11.3	88	S	8.7	1.67	.....	2	4	S	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.01	762.2	30.16	766.0	71.4	21.9	52	SSW	1.2	0.53	.....	3	5	NE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.04	763.1	56.3	13.5	91	SW	9.4	4.2	.....	.....	6	.....	.....	0.262	6.4	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.8	30.10	764.5	67.2	19.6	87	Calm	0	0	.....	0	1k	.....	ENE	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.94	760.4	29.99	761.7	84.1	28.9	68	SE	11.7	5.3	.....	3ck	4kn	W	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.1	30.26	768.6	58.6	14.8	81	W	3.7	1.7	.....	3	6	SW	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.2	30.06	763.5	70.9	21.6	88	W	0	0	.....	1cs	0	E	.....	0	0	Clear.	EnriqueGadea, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10.	Clouds. Amount. Up'er 0-10.	Lo'er 0-10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
Haparanda	29.52	749.9	29.56	750.9	12.6	—10.8	.....	NE	.....	.....	2	.....	7	.....	.....	0	0	.....	
Umea	29.50	749.4	29.56	750.7	19.6	—10.2	93	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Hernosand	29.47	748.5	29.52	749.8	15.8	— 9.0	94	N	.....	.....	2	.....	8	.....	.....	0.094	2.4	.....	
Stockholm	29.18	741.1	29.35	745.6	31.6	— 0.2	96	NNE	.....	.....	4	.....	10	.....	.....	0.055	1.4	.....	
Wisby	29.26	743.1	29.32	744.6	36.0	2.2	96	W	.....	.....	2	.....	10	.....	.....	0.051	1.3	.....	
Sub-Series.																			
Upsala	29.29	744.0	29.38	746.2	28.6	— 1.9	97	NNE	11.2	5.0	.....	.....	10	.....	.....	0.012	0.30	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.69	728.6	30.10	764.5	57.0	14.4	42	SSW	.....	.....	4	.....	7	.....	.....	0.028	0.7	Cloudy	The Observatory.
Zurich	28.44	722.4	30.08	764.1	52.5	11.4	55	W	.....	.....	4	.....	4†	.....	.....	0	0	Cloudy?	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer, +10.2 Cent. Relative Humidity, —28 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.11	764.9	41.0	5.0	39	SW	6	2.5	.....	.....	2	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.12	765.1	61.7	16.5	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.02	762.4	55.2	12.9	91	SE	.....	.....	2	.....	10n	.....	SW	0.35	8.9	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.	29.86	758.4	29.87	758.7	10	—12.2	.....	SW	5	2.2	.....	0	8ks	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B.	29.86	758.4	29.93	760.2	9.4	—12.6	78	SW	3	1.3	.....	6ck	1ks	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.98	761.5	30.02	762.5	13.2	—10.4	85	SW	5	2.2	.....	2cs	0	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.41	747.0	29.61	752.1	26.0	— 3.3	70	SW	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B.	29.71	754.6	29.89	759.2	0.0	—17.8	.....	W	.....	.....	1	0	1s	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	12.8	—10.7	100	S	35	15.6	.....	.....	10s	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B.	29.93	760.2	30.00	762.0	8.1	—13.3	76	SE	4	1.8	.....	10cs	0	.....	.....	0	0	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	28.96	735.6	29.88	758.9	— 3.0	—19.4	97	S	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.46	722.9	29.60	751.8	27.0	— 2.8	100	W	.....	.....	2	.....	10n	.....	.....	0.30	7.6	Snowing	James Grant.
Halifax, N. S.	29.97	761.2	30.17	764.8	17.3	— 8.2	79	SW	0	0	.....	0	0	.....	.....	0	0	Clear	A. Allison.
Hamilton, Ontario	29.24	742.7	29.62	752.3	30.7	— 0.7	87	SW	.....	.....	1	.....	10n	.....	.....	0.11	2.8	Snowing	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.25	742.9	29.60	751.8	21.8	— 5.7	90	S	11	4.9	.....	.....	10n	.....	.....	0.09	2.3	Light snow	S. Woods, M. A.
Little Glace Bay, N. S.	30.01	762.2	30.05	763.3	14.0	—10.0	91	S	1	0.4	.....	4c	0	.....	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.46	748.3	29.67	753.6	21.1	— 6.1	69	S	17	7.6	.....	.....	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nesson.
Norwood, Ontario	28.82	732.0	29.54	750.3	26.0	— 3.3	100	SW	4	1.8	.....	.....	10s	.....	.....	Inap.	Inap.	Snowing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.78	731.0	29.49	749.0	27.0	— 2.8	88	SW	9	4.0	.....	.....	10n	.....	.....	0.05	1.3	Light snow	Rev. R. Mosley.
Peterboro, Ontario	28.80	731.5	29.58	751.3	26.9	— 2.8	69	W	.....	.....	2	.....	10ks	.....	.....	0.30	7.6	Snowing	J. F. Jeffers, M. A.
Port Dover, Ontario	28.91	734.3	29.62	752.3	30.0	— 1.1	100	SW	11	4.9	.....	.....	10n	.....	.....	0.30	7.6	Light snow	H. Morgan.
Port Stanley, Ontario	28.99	736.3	29.66	753.4	30.2	— 1.0	94	W	20	8.9	.....	.....	10n	.....	.....	0.36	9.1	Light snow	M. Payne.
Quebec, Quebec	29.42	747.8	29.77	756.1	11.0	—11.7	90	W	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.05	737.9	29.53	750.0	18.1	— 7.7	80	NW	2	0.9	.....	0	0	.....	.....	0.16	4.1	Clear	W. H. McIntyre.
St. John, N. B.	29.80	756.9	29.98	761.5	15	— 9.4	82	SW	15	6.7	.....	.....	9ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	28.80	731.5	29.54	750.3	30.0	— 1.1	90	W	26	11.6	.....	.....	10s	.....	.....	0.25	6.3	Snowing	Mrs. K. Stewart.
Stratford, Ontario	28.29	718.6	29.62	752.3	27.5	— 2.5	96	W	13	5.8	.....	.....	10s	.....	.....	0.20	5.1	Snowing	C. J. MacGregor, M. A.
Sydney, C. B.	30.00	762.0	30.04	763.0	17.0	— 8.3	69	SW	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.20	741.7	29.60	751.8	29.7	— 1.3	93	SW	16	7.2	.....	.....	10n	.....	.....	0.270	6.86	Light snow	Magnetic Observatory
Windsor, N. S.	29.94	760.5	30.05	763.3	15.0	— 9.4	100	SW	2	0.9	.....	7cs	9n	.....	.....	0	0	Fair	Prof. John E. Oram, M.A
Woodstock, Ontario	28.50	723.9	29.60	749.3	28.3	— 2.1	93	W	19	8.5	.....	.....	10s	.....	.....	0.45	11.4	Snowing	Professor Wolverton.
Yarmouth, N. S.	29.90	761.7	30.06	763.5	36.0	— 1.1	81	SW	9	4.0	.....	8k	2s	W	.....	0	0	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.93	760.2	17	— 8.3	65	NW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
St. Pierre, M. F., l'Hopital Maritime.	.....	.....	29.92	760.0	21.2	— 6.0	.....	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the SECRETARY OF WAR.

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.62	749.8	29.75	755.6	26	— 3.3	63	S	14	6.3			10s		Calm	0	0	Cloudy	
Alpena, Michigan	28.93	734.8	29.59	751.6	26	— 3.3	88	NW	12	5.4			10n		NW	0.10	2.5	Light snow	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.89	733.8	30.05	763.3	45	7.2	84	E	2	0.9			10s		Calm	0.30	7.6	Cloudy	
Atlantic City, New Jersey	29.96	761.0	29.98	761 5	38	3.3	81	SW	18	8.0		10k	0	SW		0	0	Cloudy	
Augusta, Georgia	29.92	760.0	30.12	765.0	44	6.7	42	SE	1	0.4			10s		Calm	0.15	3.8	Cloudy	
Baltimore, Maryland	29.88	758.9	29.93	760.2	30	— 1.1	100	SW	10	4.5			10n		Calm	Inap.	Inap	Light snow	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	33	0.6	89	SW	12	5.4			10s		W	0	0	Cloudy	
Bismarck, Dakota	27.93	709.4	29.79	756.7	20	— 6.7	70	SW	8	3.6		0	0			0	0	Clear	
Boerne, Texas	28.63	727.2	29.97	761.2	49	9.4	85	W	2	0.9		2k	0	W			0	Clear	
Boise City, Idaho	27.34	694.4	30.30	769.6	29	— 1.7	78	N	1	0.4		0	8s		SW	0	0	Fair	
Boston, Massachusetts	29.81	757.2	29.97	761.2	27	— 2.8	64	SW	8	3.6		0	8s		Calm	0	0	Fair	
Brackettville, Texas	29.92	734.6	30.00	762.0	48	8.9	93	NE	1	0.4			Fog		Calm	0	0	Dense fog	
Breckenridge, Minnesota	28.88	733.5	29.96	761.0	8	—13.3	100	S	8	3.6			10s		Calm	0	0	Cloudy	
Brownsville, Texas	30.07	763.8	30.12	765.0	63	17.2	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Buffalo, New York	28.88	733.5	29.58	751.3	29	— 1.7	89	SW	11	4.9			10n		Calm	0.12	3.0	Heavy snow	
Burkes, Arizona																			
Burlington, Vermont	29.45	748.0	29.75	755.6	25	— 3.9	75	S	16	7.2			10s		S	0	0	Cloudy	
Cairo, Illinois	29.78	756.4	30.18	766.6	39	3.9	91	W	4	1.8			10s		W	Inap.	Inap.	Threatening	
Campo, California	27.32	693.9	29.94	760.5	39	3.9	82	E	2	0.9			10s		SW	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	44	6.7	92	N	4	1.8			10n		S	0.12	3.3	Light rain	
Cape Henry, Virginia	30.01	762.2	30.03	762.7	30	— 1.1	89	S	8	3.6			10n		S	0.02	0.5	Light rain	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763.0	52	11.1	100	SW	19	8.5			10n		SW	0.13	3.3	Light rain	
Cape May, New Jersey	29.94	760.5	29.97	761.2	40	4.4	82	S	28	12.5			10ks		S	0	0	Cloudy	
Castroville, Texas	29.32	744.7	30.04	763.0	51	10.6	100	NW	4	1.8			Fog			0	0	Foggy	
Cedar Keys, Florida	30.10	764.5	30.12	765.0	62	16.7	89	SW	5	2.2			10s		S	0	0	Cloudy	
Charleston, South Carolina	29.99	761.7	30.05	763.3	46	7.8	84	N	4	1.8			10n		Calm	0.06	1.5	Light rain	
Charlotte, North Carolina	29.18	741.1	30.03	762.7	37	2.8	90	SW	2	0.9			10s		SW	0	0	Cloudy	
Chattanooga, Tennessee	29.26	743.2	30.08	764.0	42	5.6	91	S	4	1.8			10n		Calm	0.11	2.8	Light rain	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	34	1.1	43	SW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.17	740.9	29.89	759.2	28	— 2.2	54	W	12	5.4		0	0			0.01	0.3	Clear	
Cincinnati, Ohio	29.32	744.7	29.99	761.7	39	3.9	64	W	10	4.5			10s		Calm	0.13	3.3	Cloudy	
Cleveland, Ohio	29.00	736.6	29.74	755.4	32.5	0.3	86	SW	27	12.1			10n		SW	0.11	2.8	Light snow	
Coleman City, Texas	28.25	717.5	29.92	760.0	61	10.6	59	NW	12	5.4		0	0			0	0	Clear	
Columbus, Ohio	28.99	736.3	29.85	758.2	35	1.7	70	W	20	8.9			10n		W	0.05	1.3	Light snow	
Concho, Texas	28.20	716.3	29.88	758.9	53	11.7	67	W			2	5cs	0	Calm		0	0	Fair	
Corsicana, Texas	29.64	752.8	30.11	764.8	53	11.7	93	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Davenport, Iowa	29.40	746.7	30.07	763.8	25	— 3.9	75	NW	6	2.7		0	0			0	0	Clear	
Dayton, Washington T'y					22	— 5.6	85	Calm	0	0		Haze	5s	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.22	640.6			36	2.2	61	SW	8	3.6		0	0			0	0	Clear	
Decatur, Texas	28.94	735.1	30.14	765.5	51	10.6	72	E	4	1.8			Fog			0	0	Foggy	
Delaware Breakwater, Del	29.94	760.5	29.97	761.2	34	1.1	90	SW	24	10.7			10s		W	0	0	Cloudy	
Denison, Texas	29.31	744.5	30.12	765.0	46	7.8	100	NE	6	2.7			Fog		Calm	0	0	Dense fog	
Denver, Colorado	24.81	630.2	30.03	762.7	29	— 1.7	67	SE	3	1.3		0	0			0	0	Clear	
Des Moines, Iowa	29.19	741.4	30.12	765.0	24	— 4.4	74	N	3	1.3		0	0			0	0	Clear	
Detroit, Michigan	28.99	736.3	29.67	753.6	31	— 0.6	89	W	10	4.5			9s		W	0.07	1.8	Cloudy	
Dodge City, Kansas	27.44	697.0	29.84	757.9	26	— 3.3	52	N	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa	29.28	743.7	30.03	762.7	17	— 8.3	67	NW	9	4.0		5ok	Haze	NW	Calm	0	0	Fair	
Duluth, Minnesota	29.26	743.2	29.99	761.7	7	—13.9	77	SW	4	1.8		2cs	0	Calm		0	0	Fair	
Eagle Pass, Texas	29.35	745.5	30.10	764.5	50	10.0	65	SE	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.91	759.7	29.98	761.5	24	— 4.4	74	S	7	3.1		5c	5s	Calm	S		0	Cloudy	
Edinburg, Texas					63	17.2	94	Calm			0		10s		Calm		0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	28.91	734.3	29.64	752.8	30	— 1.1	89	SW	12	5.4			10n		SW	0.18	4.6	Light snow	
Escanaba, Michigan	29.12	739.6	29.80	756.9	16	— 8.9	49	NW	18	8.0		0	0			0	0	Clear	
Florence, Arizona	28.50	723.9	30.10	764.5	55	12.8	93	E	4	1.8			10s		Calm	0	0	Threatening	
Fort Apache, New Mexico	25.10	637.5	30.55	776.0	35	1.7	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.71	703.8	29.63	752.6	15	— 9.4	82	SW	1	0.4		0	0			0	0	Clear	
Fort Custer, Montana	26.72	678.7			34	1.1	79	SW	10	4.5		0	0			0	0	Clear	
Fort Davis, Texas	25.29	642.4	30.25	768.3	43	6.1	67	W	1	0.4		2cs	5s	W	W	0	0	Fair	
Fort Gibson, Indian Ter	29.62	752.3	30.19	766.8	38	0.6	89	Calm	0	0			10s		Calm	0.04	1.0	Cloudy	
Fort Grant, Arizona	25.33	643.4	30.13	765.3	44	6.7	61	SE	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Fort Griffin, Texas	28.76	730 5	30.05	763.3	48	8.9	76	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.17	690.1			16	— 8.9	83	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.76	755.9	44	6.7	84	W	6	2.7		4cs	0	S		0	0	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.86	733 0	30.01	762.2	37	2.8	100	N	10	4.5			Fog		Calm	0	0	Foggy	
Fort Stevenson, Dakota																			
Fort Verde, Arizona					38	3.3	91	SW			1		10s		SW	0	0	Cloudy	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.26	717.8	29.80	756 9	59	15.0	48	S	2	0.9		5cs	0	Calm		0	0	Fair	
Galveston, Texas	30.08	764.0	30.12	765.0	61	16.1	94	SW	6	2.7			10s		SW	0.02	0.5	Cloudy	
Grand Haven, Michigan	29.12	739.6	29.79	756.7	29	— 1.7	89	NW	30	13.4		10k	0	NW		Inap.	Inap.	Cloudy	
Helena, Montana	29.14	740.1	30.11	764.8	43	6.1	100	SE	8	3.6			Fog			0	0	Foggy	
Henrietta, Texas																			
Indianapolis, Indiana	29.12	739.6	29.92	760.0	37	2.8	63	W	8	3.6			10s		W	0.06	1.5	Threatening	
Indianola, Texas	30.12	765.0	30.14	765.5	60	15.6	94	NW	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Jacksboro, Texas	28.86	733.0	29.96	761.0	65	18.3	54	SW	16	7.2			10s		SW	0	0	Cloudy	
Jacksonville, Florida	30.07	763.8	30.10	764.5	55	12.8	87	NW	1	0.4			10s		Calm	0.02	0.5	Cloudy	
Keokuk, Iowa	29.43	747.5	30.08	764.0	27	— 2.8	64	N	7	3.1		0	0			0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	72	22.2	90	NE	3	1.3		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.00	762.0	30.03	762.7	36	2.2	80	E	1	0.4			10n		NE	0.06	1.5	Light rain	
Knoxville, Tennessee	29.02	737.1	30.05	763.3	40.5	4.7	95	SW	15	6.7			10s		SW	0.06	1.5	Cloudy	
La Crosse, Wisconsin	29.26	743.2	30.05	763.3	16	— 8.9	66	NW	6	2.7		0	0			0	0	Clear	
La Mesilla, New Mexico	26.18	665.0	30.34	770.6	43	6.1	75	Calm	0	0		0	2s		Calm	0.01	0.3	Fair	
Laredo, Texas	29.65	753 1	30.00	762.0	60	15.6	71	SE	2	0.9		0	0			0	0	Clear	
Leavenworth, Kansas	29.31	744.5	30.19	766.8	31	— 0.6	58	N	9	4.0		0	6			0	0	Clear	
Lewiston, Idaho					26	— 3.3	77	E	4	1.8		5k	5s	Calm	Calm	0	0	Cloudy	
Little Rock, Arkansas	29.84	757.9	30.21	767.5	41	5.0	91	NW	1	0.4		8cs	0	Calm		0.06	1.5	Fair	
Los Angeles, California	29.63	752.6	29.98	761.5	48.5	9.2	78	E	13	5.8			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.44	747.8	30.01	762.2	40	4.4	73	W	16	7.2			10s		W	0.08	2.0	Cloudy	
Lynchburg, Virginia	29.28	743.7	29.99	761.7	32	0.0	79		3	1.3			10n		SW	0.08	2.0	Light snow	
Madison, Wisconsin	28.88	733.5	29.92	760.0	18	— 7.8	68	NW	20	8.9		0	0			0	0	Clear	
Marquette, Michigan	29.07	738.4	29.81	757.2	16	— 8.9	66	NW	16	7.2			10s		NW	0	0	Cloudy	
Mason, Texas	28.42	721.9	30.20	767.1	49	9.4	78	SW	6	2.7		0	0			0	0	Clear	
Memphis, Tennessee	29.83	757.7	30.18	766.6	40	4.4	91	W	2	0.9			10s		SW	0.04	1.0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.10	739.1	29.87	758.7	20	— 6.7	66	NW	30	13.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Mobile, Alabama	30.06	763.5	30.10	764.5	55	12.8	93	Calm	0	0	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Montgomery, Alabama	29.89	759.2	30.13	765.3	47	8.3	100	NE	2	0.9	.....	.....	10n	.....	Calm	0.42	10.7	Light rain	
Morgantown, West Virginia	28.78	731.0	29.78	756.4	41	5.0	82	SW	13	5.8	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Mt. Washington, N. H.	23.23	590.0	29.59	751.6	8	—18.3	78	W	69	30.8	.....	10k	0	Calm	.....	0	0	Cloudy	
Nashville, Tennessee	29.57	751.1	30.12	765.0	42	5.6	83	NW	4	1.8	.....	.....	10ks	.....	NW	0.15	3.8	Cloudy	
New Haven, Connecticut	29.83	757.7	29.95	760.7	36	2.2	80	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
New London, Connecticut	29.92	760.0	29.97	761.2	35	1.7	70	SW	9	4.0	.....	.....	9s	.....	SW	0	0	Cloudy	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	58	14.4	76	N	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Newport, Rhode Island	29.93	760.2	29.98	761.5	37	2.8	71	SW	24	10.7	.....	.....	10s	.....	SW	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	39	3.9	100	NE	.....	.....	1	.....	10n	.....	N	.....	.....	Light rain	
New York, New York	29.79	756.7	29.98	761.5	30	— 1.1	89	S	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
Norfolk, Virginia	29.96	761.0	30.02	762.5	38	3.3	100	S	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
North Platte, Nebraska	27.13	689.1	29.97	761.2	19	— 7.2	69	NW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Olympia, Washington Ter.	30.14	765.5	30.18	766.6	33.0	0.6	94	N	1	0.4	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
Omaha, Nebraska	28.96	735.6	30.18	766.3	22	— 5.6	72	W	5	2.2	.....	0	0	.....	.....	0	0	Cloudy	
Oswego, New York	29.34	745.2	29.67	753.6	32	0.0	89	S	8	3.6	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Pembina, Dakota	28.91	734.3	29.82	757.4	0	—17.8	100	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.09	764.3	30.12	765.0	54	12.2	87	N	3	1.3	.....	9cs	0	NW	.....	Inap.	Inap.	Cloudy	
Philadelphia, Pennsylvania	29.86	758.4	29.91	759.7	32	0.0	69	S	21	9.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.85	732.8	30.07	779.0	55	11.7	67	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.66	448.6	29.87	758.7	7	—13.9	54	W	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.34	745.2	30.19	766.8	42	5.6	83	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Pioche, Nevada	24.04	610.6	29.81	757.2	28	— 2.2	66	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.93	734.8	29.74	755.4	30	2.2	90	W	12	5.4	.....	.....	10n	.....	W	0.07	1.8	Light snow	
Port Huron, Michigan	28.95	735.3	29.62	752.3	31	— 0.6	89	W	20	8.9	.....	0	8n	.....	W	0.11	2.8	Light snow	
Portland, Maine	29.87	758.7	29.94	760.5	32	0.0	69	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.12	765.0	30.20	767.1	34	1.1	79	Calm	0	0	.....	8cs	2s	Calm	Calm	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	45	7.2	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Prescott, Arizona	24.76	628.4	30.12	765.0	34	1.1	90	Calm	0	0	.....	8c	0	Calm	.....	0	0	Cloudy	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	65	18.3	94	NE	1	0.4	.....	.....	Fog	.....	NE	0	0	Foggy	
Red Bluff, California	29.72	754.9	30.09	764.3	38.5	3.6	91	N	2	0.9	.....	.....	10n	.....	.....	0.03	0.8	Light rain	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	28.97	735.8	29.59	751.6	28	— 2.2	88	SW	6	2.7	.....	.....	10n	.....	Calm	0.16	4.1	Heavy snow	
Roseburg, Oregon	29.58	751.3	30.17	766.3	31.5	— 0.3	95	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.96	761.0	30.04	763.0	40	4.4	91	N	7	3.1	.....	.....	10n	.....	Calm	0.09	2.3	Light rain	
St. Louis, Missouri	29.51	749.5	30.11	764.8	36	2.2	80	NW	14	6.3	.....	1k	0	NW	.....	0.03	0.8	Clear	
St. Paul, Minnesota	29.11	739.4	30.00	762.0	14	—10.0	82	SW	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	29	— 1.7	56	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.48	747.5	30.02	762.5	53	11.7	100	Calm	0	0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
San Diego, California	29.98	761.5	30.05	763.3	49	9.4	78	E	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Sandusky, Ohio	29.07	738.4	29.75	755.6	35	1.7	70	W	23	10.3	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	29.92	760.0	29.96	761.0	31	— 0.6	79	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
San Francisco, California	29.97	761.2	30.03	762.7	43	6.1	87	NE	10	4.5	.....	.....	9ks	.....	NE	0	0	Cloudy	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	18	— 7.8	53	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.04	763.0	30.14	765.5	45	7.2	91	NW	6	2.7	.....	.....	10n	.....	W	0 06	1.5	Light rain	
Shreveport, Louisiana	29.93	760.2	30.16	766.1	47	8.3	92	N	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.03	762.7	30.07	763.8	45	7.2	100	N	5	2.2	.....	.....	10n	.....	Calm	0.24	6.1	Light rain	
Socorro, New Mexico	25.52	684.2	29.58	751.3	42	5.6	100	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Springfield, Illinois	29.40	746.7	30.10	764.5	34	1.1	70	NW	10	4.5	.....	0	0	.....	.....	0.13	3.3	Clear	
Springfield, Massachusetts	29.78	756.4	29.92	760.0	30	— 1.1	68	S	7	3.1	.....	.....	10s	.....	SW	0	0	Threatening	
Stockton, Texas	27.08	687.8	30.08	764.0	51	10.6	22	W	7	3.1	.....	0	2ks	.....	Calm	0	0	Fair	
Thatcher's Island, Mass	29.90	759.4	29.93	760.2	35	1.7	80	SW	27	12.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Toledo, Ohio	29.04	737.6	29.73	755.1	36	2.2	80	SW	22	9.8	.....	8k	0	SW	.....	0.02	0.5	Clearing	
Tucson, Arizona	27.57	700.3	30.12	765.0	54	12.2	78	S	3	1.3	.....	2c	2s	Calm	Calm	0	0	Fair	
Umatilla, Oregon	29.94	760.5	30.47	773.9	25	— 3.9	87	SE	4	1.8	.....	0	8s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.22	742.2	30.05	763.3	49	9.4	85	Calm	0	0	.....	0	Fog	.....	N	0	0	Fair	
Vicksburg, Mississippi	29.91	759.7	30.18	766.6	47	8.3	100	N	3	1.3	.....	.....	10n	.....	.....	0.28	7.1	Light rain	
Virginia City, Montana	24.26	616.2	29.74	755.4	16	— 8.9	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.59	751.6	29.97	761.2	42	5.6	95	NW	12	5.4	.....	.....	10n	.....	Calm	0.79	20.1	Light rain	
Washington, D. C.	29.81	757.2	29.93	760.2	30	— 1.1	95	S	16	7.2	.....	.....	10n	.....	Calm	0.04	1.0	Heavy snow	
Wickenburg, Arizona	.....	.....	.....	.....	42	5.6	83	NW	.....	.....	1	10cs	0	S	.....	0	0	Cloudy	
Wilmington, North Carolina	29.96	761.0	30.04	763.0	37	2.8	90	Calm	0	0	.....	.....	10n	.....	Calm	0.24	6.1	Light rain	
Winnemucca, Nevada	25.56	621.5	30.01	762.2	24	— 4.4	74	NE	20	8.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Wood's Holl, Massachusetts	29.94	760.5	29.98	761.5	40	4.4	82	SW	22	9.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.76	730.5	30.16	766.1	16	— 8.9	83	SW	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Yuma, Arizona	29.85	758.2	30.01	762.2	47	8.3	55	E	2	0.9	.....	5c	0	Calm	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	21.98	558.3	.....	.....	56.0	13.3	77	Calm	.....	.....	0	6k	3s;ks	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	.....	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	76.5	24.7	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	76	24.4	91	NE	.....	.....	2	4k	7ks	E	.....	0.350	24.13	¾ Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.42	747.3	29.97	761.2	80	26.7	71	N	.....	.....	6	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.08	764.0	30.13	765.3	—26.0	—32.2	.....	NW	13	5.8	.....	1c	0	NW	.....	0.20	5.1	Fair	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,127 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,180 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,460 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.18‡	766.6‡	.....	.....	56	13.3	94	NNE	3	1.3	.....	.....	8	.....	NW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H.	29.92‡	760.0‡	.....	.....	30	— 1.1	89	SSW	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Naval Hospital, Yokohama, Japan	29.78‡	756.4‡	.....	.....	46.5	8.1	96	NNE	.....	.....	2	.....	10n	.....	NE	0.36	9.1	.....	.....	Raining	
Adams, N. 16° 18′, W. 99° 50′	29.97‡	761.2‡	.....	.....	80	26.7	74	N	.....	.....	2	.....	2	.....	N	.....	.....	Smooth	NE	Fair	
Colorado, New York, N. Y.	29.97‡	761.2‡	.....	.....	31	— 0.6	.....	SW	20	8.9	.....	.....	8	.....	S	0	0	.....	.....	Cloudy	
Constitution, As inwall, Panama	29.96‡	761.0‡	.....	.....	78	25.6	82	NNE	.....	.....	5	.....	4	.....	NNE	.....	.....	Mod'ate	NNE	Fair	
Enterprise, N. 40° 53′, E. 13° 39′	30.19‡	766.8‡	.....	.....	58	14.4	70	SSE	.....	.....	3	.....	2	.....	SW	.....	.....	Mod'ate	.....	Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.08‡	764.0‡	.....	.....	36	2.2	??	SSW	9.6	4.3	..	.....	10	.....	SW	0.01	0.3	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.05‡	763.3‡	.....	.....	42	5.6	83	NE	1.2	0.5	.....	.....	10	.....	.....	0	0	.....	.....	Overcast	
Kearsarge, Boca del Toro, Chiriqui	30.03‡	762.7‡	.....	.....	74	23.3	81	N	.....	.....	2	.....	8	.....	N	.....	.....	Smooth	.....	Cloudy	
Lackawana, Navy Yard, Mare I'd., Cal.	30.10‡	764.6‡	.....	.....	48	8.9	92	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Marion, Flores Isl., Uruguay	29.95‡	760.7‡	.....	.....	73	22.8	95	ESE	.....	.....	1	.....	10	.....	Calm	0	0	Smooth	.....	Foggy	
Michigan, Erie, Pa.	29.73‡	755.1‡	.....	.....	29	— 1.7	67	WSW	.....	.....	4	.....	10	.....	wsw	.....	.....	.....	.....	Snowing	
Monocacy, Shanghai, China	30.37‡	771.4‡	.....	.....	37	2.8	81	N	.....	.....	1-2	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.12‡	765.0‡	.....	.....	47	8.3	92	NW	8	3.6	.....	.....	10	.....	Calm	0.03	0.8	.....	.....	Overcast	
Nipsic, N. 22° 39′, W. 67° 05′	30.10‡	764.5‡	.....	.....	73	22.8	72	ENE	.....	.....	1	.....	2	.....	.....	.....	.....	Long	E	D. clouds	
Onward, Callao, Peru	29.89‡	759.2‡	.....	.....	67	19.4	89	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Long	W	Fair	
Palos, Tientsin, China	30.38‡	771.6‡	.....	.....	35	1.7	53	SE	.....	.....	3-1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	30.00‡	762.0‡	.....	.....	32	0.0	79	SW	.....	....	6	.....	10	.....	SW	.....	.....	.....	.....	Snow-storm	
Pensacola, N. 1° 13′, W. 80° 55′	29.92‡	760.0‡	.....	.....	76	24.4	86	NNE	.....	.....	3	.....	.....	.....	.....	.....	.....	Smooth	.....	Blue sky	
Powhatan, Norfolk, Va.	30.07‡	763.8‡	.....	.....	37	2.8	71	S	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Drizzling	
Quinnebaug, Leghorn, Italy	30.12‡	765.0‡	.....	.....	56	13.3	87	S	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Richmond, Hong-Kong, China	30.19‡	766.8‡	.....	.....	58	14.4	76	N	.....	.....	2	.....	10	.....	.....	0.03	0.8	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.26‡	768.6‡	.....	.....	61	16.1	100	ESE	1	0.4	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	29.96‡	761.0‡	.....	.....	33	0.6	.....	SSW	.....	.....	5	.....	10	.....	W	0	0	.....	.....	Overcast	
Shenandoah, Montevideo, Uruguay	29.92‡	760.0‡	.....	.....	74	23.3	95	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Fair	
St. Louis, League Island, Pa.	29.97‡	761.2‡	.....	.....	32	0.0	.....	SSW	20	8.9	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy	
Swatara, Malaga, Spain	30.21‡	767.3‡	.....	.....	63	17.2	94	SW	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair	
Tennessee, Norfolk, Va.	30.01‡	762.2‡	.....	.....	34	1.1	100	S	4	1.8	.....	.....	10	.....	.....	.....	.....	Smooth	.....	Drizzling	
Trenton, Toulon, France	30.12‡	765.0‡	.....	.....	71	21.7	53	W	.....	.....	3	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, N. 15° 38′, W. 96° 14′	29.98‡	761.5‡	.....	.....	78	25.6	61	NNE	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.00‡	762.0‡	.....	.....	29	— 1.7	78	SSW	12	5.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Wyoming, Naples, Italy	30.16‡	766.1‡	.....	.....	58	14.4	56	SSW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7.35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer, Halifax, N. S.†	30.03‡	762.7‡	20	— 6.7		SSW			1		0							Clear	
S. S. Moravian, J. Graham. N. 55° 07', W. 13° 04'	29.64‡	752.8‡	45	7.2	77	NNE			6		2		NNE	2 hr's	2 hr's	Mod'ate	N	Fine	John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton. N. 45° 18', W. 56° 29'	30.13‡	765.8‡				WNW			5		1		NW			Mod'ate	W	Clear	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	29.74‡	755.4‡	56	13.3	87	W			7		7		WSW	Mod'ate	Mod'ate			Cloudy	
S. S. Ohio, Henry Morrison. N. 41° 43', W. 57° 54'†*	30.07‡	763.8‡	39	3.9		NNW			5		8		NW	0	0	Mod'ate	NW	Cloudy	Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger. N. 33° 30', W. 118° 11'†.	30.20‡	767.1‡				ESE			4		10		SE			Mod'ate	SSW	Rainy	
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 47° 56', W. 37° 04'	29.76‡	755.9‡	44.0	6.7	88	NNW			1		10		N	3 h'rs	3 h'rs	Rough	SW; NNE	Drizzling	S. Risius.
S. S. Ohio, G. Meyer																			
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Hong Kong, China	30.11‡	764.8‡	57	13.9	94	N			1		10		N					Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.†	29.98‡	761.5‡				W			3		ks		SW	Slight	Slight	Smooth		Light rain	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander, San Francisco, Cal.†	30.02‡	762.5‡	47	8.3		NE			5		10		NE	0	0			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Dubney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		

PACIFIC MAIL S. S. CO., MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.

S. S. Alaska, D. S. Austin,																			
Punta Arenas, Costa Rica†	29.91‡	759.7‡	78	25.6	91	E			3		2		Calm	0	0	Small	SW	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann.																			
N. 46° 57′, W. 125° 00′ ....†	30.20‡	767.1‡	42	5.6		Calm			0		8		N			Light	W	Cloudy.....	E. Polemann.
S. S. City of Panama, M. Connolly,																			
N. 7° 19′, W. 82° 07′.....†..	29.89‡	759.2‡	80	26.7		E			2		2		SE	0	0	Smooth	E	Clear.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle,																			
N. 35° 24′, W. 121° 32′†....	29.91‡	759.7‡	51	10.6	86	ESE			3		9		SE	0	0	Heavy	WNW	D. clouds.....	
S. S. Dakota, D. E. Griffiths																			
N. 39° 52′ W. 124° 14′..†..	30.03‡	762.7‡	42	5.6		NNW			2					0	0	Heavy	NNW	Clear.....	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest,																			
N. 29° 01′, W. 144° 06′...†.	30.25‡	768.3‡				N			3				SE			Mod'ate	N	Clear.....	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes,																			
N. 41° 33′, W. 57° 21′...†..	30.14‡	765.5‡	43	6.1		NNW	2	0.9			10		NW	0	0	High	WNW	Fine.....	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,... ..																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Adale Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury.																			
S. 40° 27′, E. 124° 46′.....†	30.18‡	766.6‡	64	17.8		N			2		10		N			Mod'at	SW	Cloudy.....	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
Iron Cross, W. Randall,																			
N. 20° 10′, W. 26° 20′.....	29.98‡	761.5‡	69.6	20.9	85	WNW			5		5		N	0	0	Long	NNW	D. c'ouds....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons/ made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 22, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time
1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.22	767.5				SW					4			0	0	Cloudy	
Nemours			30.16	766.0	70.5	21.4	50	Calm			0		4			0	0	Cloudy	Kesxuche.
Algiers			30.10	764.5	65.8	18.8	60	SSW			1		0			0	0	Clear	Tourlliere.
La Calle			30.04	763.1	64.2	17.9	78	SW			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.13	765.2															Gau
Saida			30.12	765.1															Herbin.
Tebessa			30.14	765.6	68.2	20.1	21	W			2		9			0	0	Covered	Watrin.
Geriville																			Brugniaux.
Laghouat			30.19	766.7	72.0	22.2	5	SW			1		0			0	0	Clear.	Bertrand.
Biskra			30.11	764.9	69.4	20.8	47	E			2		4			0	0	Cloudy	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.38	746.2	29.93	760.2	54.3	12.4	90	W			3		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.6	29.94	760.4	44.6	7.0	74	W	3.8	1.7			10			0.072	1.9		Dr. Wierzbicki.
Eperies	29.08	738.7	30.00	762.0	38.4	0.8	92	S			1		10			0	0	Foggy	Julius Mikolik.
Gratz	28.61	726.6	29.88	759.0	44.6	7.0	79	SW			2		7			0	0		Andreas Rospini.
Hermannstadt	28.55	725.2	30.01	762.2	46.0	7.2	76	NW			3		3			0	0		Prof. A. Gottschling
Kremsmünster, Observatory	28.48	723.5	29.85	758.2	41.4	5.2	86	NNE			1		10			0.031	0.8		The Staff.
Lemberg	28.85	732.9	29.87	758.7	37.0	2.8	38	NW			2		8			0.055	1.4		Dr. T. Stanecki.
Pola	29.87	758.7	29.98	761.6	52.2	11.2	86	S			1		10			0	0		I.R.Hydrographic Office.
Szathmar	29.56	750.9	30.04	763.1	38.8	3.6	84	E			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.69	754.1	29.98	761.4	46.4	8.0	86	Calm			0		4			0	0		Karl Stancel.
Trieste	29.88	759.0	29.98	761.6	49.8	9.9	96	Calm			0		10			0.205	5.2	Rain & fog	P. Busin.
Vienna	29.16	740.7	29.89	759.2	46.6	8.1	78	E			1		8			0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.58	751.3	29.78	756.4	47.5	8.6	80	WSW			1		10		ESE	0.435	11.05		Royal Observatory.
Furnes	29.77	756.2	29.80	756.8	47.8	8.8	81	W			1		3			0.004	0.1		M. E. de Cae.
Maeseyck	29.67	753.7	29.80	756.9	48.6	9.2	74	N			2		7			0.571	14.5		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.84	757.9	29.94	760.5	43.9	6.6	.....	NE	15	6.7	.....	.....	9	.....	.....	0.080	2.03	Showery.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh, (Observatory)	29.69	754.1	29.93	760 2	47.1	8.4	.....	N	8	3.6	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.78	756.4	43	6.1	.....	NW	17	7.6	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton (Sharples)	29.21	741.9	29.73	755.1	41.1	5.1	.....	NNW	4	1.8	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	1.5	.....	J McLandsborough.
Bridgetown, Barbadoes	29.93	760.2	29.96	761.0	79	26.1	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	Pvt.G.Surgener, A.H. C
Cambridge (Observatory)	29.70	754:4	29.80	756.9	52.0	11.1	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	H. Todd.
Cardington	.....	.....	29.77	756.1	45.0	7.2	.....	W	.....	.....	0–1	.....	2	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham (School M. E.)	29.65	753.1	29.78	756.4	45.1	7.3	.....	Calm	.....	.....	0	.....	7k	.....	.....	.....	.....	D. clouds.....	Lance Corp'l Hocker, R. E.
Dundee	29.87	758.7	29.91	759.7	46	7.8	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.74	755.4	29.77	756.1	45	7.2	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded...	J. Costello.
Falmouth (Observatory)	29.64	752.8	29.87	758.7	47.0	8.3	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, Natal	27.58	700.5	29.80	756.9	87.4	30.8	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Blue sky.....	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.75	755.6	29.97	761.2	88	31.1	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.93	760.2	50	10.0	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.04	763.0	30.10	764 5	65.9	18.8	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.69	754.1	29.90	759.4	45.4	7.4	.....	N	.....	.....	5	.....	7k	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.79	756.7	29.80	756.9	43	6 1	.....	S	.....	.....	1	.....	3	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	29.62	752.3	29.80	756.9	40.6	4.8	.....	N	.....	.....	.....	.....	10	.....	.....	.....	.....	Foggy	The Staff, for G.B.Airy.
Guernsey	29.59	751.6	29.81	757.2	47.5	8.6	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	Raining	Dr.S.E Hoskins, F.R.S.
Helston	30.00	762.0	30.12	765.0	48	8.9	.....	NW	.....	.....	4	.....	8k	.....	.....	0.12	3.0	Showery.....	M. P. Moyle.
Holyhead	29.76	755.9	29.83	757.7	46	7.8	.....	N	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.54	750.3	29.84	757.9	46.7	8.2	.....	W	.....	.....	3	.....	4	.....	.....	Blank	Blank	D. clouds	J. Fisher.
Kew (Observatory)	29.76	755.9	29.80	756.9	43.9	6.6	.....	SW	3	1.3	.....	.....	9	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	29.52	749.8	29.78	756.4	41.6	5.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	65.4	18.6	.....	SW	.....	.....	2	.....	1cs	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	29.88	758.9	29.98	761.5	43	6.1	.....	E	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast.....	W. D. Penny.
Nassau, Bahamas	.....	.....	29.99	761.7	75.6	23.9	.....	NW	.....	.....	.....	.....	6	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham (Observatory)	29.60	751.8	29.77	756.1	41.0	5.0	.....	SSW	.....	.....	1	.....	10k;s	.....	.....	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.25	742.9	29.78	756.4	40.1	4.5	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.56	750.8	29.82	757.4	43	6.1	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	Misty.....	The Staff, for E. J. Stone, Esq
Plymouth	29.75	755.6	29.83	757.7	49.0	9.4	.....	NW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
*Roche's Point	29.88	758.9	29.97	761.2	48	8.9	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	Wm. Kennedy.
St. Ann's Head	29.69	754.1	29.85	758.2	46	7.8	.....	NNW	.....	.....	2	.....	4	.....	.....	.....	.....	Showery.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.04	763.0	43.3	6.3	.....	NE	19	8.5	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.99	761.7	30.06	763.5	46.8	8.2	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Serg't W. H. Lyne.
Sheffield	29.49	749.0	29.77	756.1	44.0	6.7	.....	SW	.....	.....	1	.....	10	.....	.....	0.07	1.8	Overcast.....	W. F. Cooper.
Silloth Rectory	29.77	756.1	29.80	756.9	44.6	7.0	81	E	.....	.....	4	.....	9	.....	.....	0	0	D. clouds.....	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.74	755.4	40.7	4.8	.....	SW	4	1.8	.....	.....	10	.....	.....	.....	.....	Raining	Rev. S. J. Perry.
Strathfield, Turgiss	29.59	751.6	29.81	757.2	42.8	6.0	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.81	757.2	29.86	758.4	51	10.6	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory	30.01	762.2	30.04	763.0	48.3	9.1	.....	NNW	14	6.3	.....	.....	7	.....	.....	Blank	Blank	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.96	761.0	30.00	762.0	83	28.3	66	NW	7.6	3.4	.....	1	4	.....	.....	0	0	Foggy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.58	649.7	.....	.....	85	29.4	.....	NW	.....	.....	.....	2c	4k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.76	679.7	.....	.....	75	23.9	.....	NW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.08	764.0	66.0	18.9	73	S	.....	.....	2	.....	10k	.....	.....	0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc'ti'd	.....	.....	29.91	759.7	42.9	6.1	.....	NE	.....	.....	4	.....	10k	.....	.....	0.02	0.5	Cloudy.....	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	761.0	80.5	26.9	65	ESE	22.5	10.1	.....	2	2	.....	SE	0	0	Squally	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.09	764.3	66.0	18.9	88	W	6	2.7	.....	.....	4	.....	.....	0	0	Hazy.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.04	763.0	47	8.3	.....	NE	.....	.....	4	3	5	NE	.....	0	0	.....	.....
North Unst, Shetland Is	.....	.....	30.03	762.7	.....	.....	.....	NE	.....	.....	6	10	8	NE	.....	0	0	.....	.....

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 24° 05′ W. 24° 26′	.....	.....	30.24‡	768.1‡	79.5	26.4	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Thos. Young.
City of Cashmere, S. 3° 17′, W. 32° 42′	.....	.....	29.99‡	761.7‡	80.8	27.1	.....	ESE	.....	.....	5	.....	3	.....	.....	Long	NNW	D. clouds.....	Capt. W. M. Grieve.
Barque Dochra, S. 31° 51′, W. 36° 02′	.....	.....	30.19‡	766.8‡	76	24.4	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. N. Spalding.
S. S. German, S. 26° 17′, E. 7° 52′	.....	.....	30.07‡	763.8	70	21.1	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 30° 02′ E. 34° 25′	.....	.....	29.95‡	760.7‡	82.3	27.9	.....	N	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Bute Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

Note.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. L'w'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
San José	26.24	666.5	29.96	761.0	68.6	14.8	73	E			4		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.3	29.90	759.5	34.7	1.5	96	SE			2		10					Raining	
Farõe	29.85	758.2	29.87	758.7	36.5	2.5	100	SSE			4		10					Foggy	
Godthaab (Greenland)	29.33	744.9	29.37	746.0	28.5	— 4.7		S			6		10					Snowing	
Stykkisholm (Iceland)	29.57	751.1	29.61	752.2	36.7	2.6	96	S			2		10					Raining	
Thorshavn (Farõe)	30.12	765.0	30.15	765.9	42.1	5.6	77	SSW			2		8						
Vestervig	29.82	757.4	29.93	760.2	38.1	0.6	90	NE			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.8	29.87	758.8	49.1	9.5	61	W			3		10		NW	0.28	7.	Covered	Collignon, Director.
Amiens, Normal School	29.70	754.3	29.81	757.1	48.9	9.4	81	SW			1		8		NE	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.52	749.9	29.78	756.5	45.0	7.7	78	NNW			1		k		NE	0.177	4.5		Klein, Commandant.
Avignon, Normal School	29.84	758.0	29.92	760.0	51.1	10.6	93	N			1		10					Rainy	Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.82	757.3	48.9	9.4	86	W			1		10n		WSW	0.386	9.8	Covered	C. Saillard, Director.
Beauvais, Normal School	29.53	750.0	29.80	756.8	48.4	9.1	77	NW			1		8		NW	0.20	5.	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	28.97	735.9	29.87	758.7	49.3	9.6	84	S			1		8		S	0.378	9.6	Very cloudy	A. Carré, Director.
Bordeaux	29.72	754.8	29.91	759.8	49.8	9.9	84	WNW			1		8			0.181	4.60	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.03	737.4	29.94	760.5	49.3	9.6	86	S			1		n	W	S	0.213	5.4		Marlot, Director.
Bourges, Normal School	29.35	745.4	29.91	759.6	48.9	9 4	92	S			1		5sn		S	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.66	753.4	29.91	759.6	51.1	10.6	89	NW			2		9		NW	0.246	6.25	Squally	Ch. de Remaree, Dir.
Caen, Normal School	29.70	754.8	29.77	756.2	50.0	10.0	79	SW			2		5		SW	0.421	10.7	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.53	750.1	29.95	760.7	51 8	11	8	W			2		10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch	29.50	749.4	29.83	757.7	47.1	8.4	83	SW			1		10			0	0	Covered	Jadot, Director
Chartres, Normal School	29.22	742.2	29.79	756.7	46.9	8.3	94	NW			1		10			0.39	10.	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.49	723.6	29.85	758.1	51.4	10.8	70	W			1		8		W	0.157	4.0		Alluard, Director.
Commercy, Normal School	28.94	735.0	29.80	756.9	50.5	10.3	81	SSW			1		8sn	SW	SSW	0.327	8.3	Very cloudy	Dr. Coullet, Director.
Commune de Gréasque*	28.80	731.6	29.95	760.6	50.5	10.3	92	SE			3		10		SE	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.15	740.3	29.93	760.2	47.5	8.6	67	NE			1		10n			0.220	5.6	Raining	Allard, Director.
La Roche-sur-Yon, N. Sch'l	29.72	754.9	29.93	760.3	50.1	13.4	72	WSW			1		8		WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.56	750.9	29.87	758.8	48.6	9.2	63	WNW			2		5		W	0.205	5.2	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.96	735.6	29.88	759 0	50.2	10.1	79	SW			1		10		W	0.220	5.60	Raining	A. Baudry, Director
Lorient, Naval Observatory	29.80	756.8	29.91	759.6	51.4	10.8	90	W			4		5		W	0.039	1.0	½ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station	29.24	742.8	29.87	758.6	50.5	10.3	84	S			1		10			0.157	4.0	Rainy	Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.62	752.4	29.89	759.3	53.6	12.0	83	E			0–1		10		SE	0.039	1.0	Rainy	E. Stephan, Director.
Mirecourt, Normal School	28.78	730.9	29.82	757.4	48.9	9.4	86	SW			1		2			0.362	9.2	Slightly cov.	Barbier, Director.
Mont-Louis	24.66	626.3	29.97	761.3	42.8	6.0	68	WSW			4		6		W	0	0		M. Cave, for Dr. Fines.
Nice	29.92	760.0	29.95	760.8	56.5	13.6	80	SW			2		10	SW	SW			Light rain	Capt. Boissière, Director.
Nismes, Normal School	29.66	753.3	29.85	758.3	55.0	12.8	74	N			1		2		N	0	0	Slightly cl'y	M. Boyer, Director.
Perpignan	29.82	757.4	29 93	760.1	55.6	13.1	57	N	18.0	5.8			8	NW	W	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.36	568.0			26.8	— 2.9							10		NNW	0.843	8.7	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	28.83	732.2	29.91	759.8	45.5	7.5	91	S			4			S	S	0	0	Foggy	M. Tallieu
Puy de Dome (Summit) Obs	24.93	633.2			32.2	0.1	100	WSW			4		Fog			0.161	4.1	Raining	Alluard, Director.
Rochefort, Naval Obs'y	29.94	760.4	29.97	761.2	53.1	11.7	79	W			1		0			0	0	Clear	Lt E. Decante, Director
Rouen, Normal School	29.72	754.8	29.80	757.0	49.3	9.6	63	NW			1		5		W	0.374	9.5	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.9	29.87	758.7	50.7	10.4	73	WSW			3		1	WSW	WSW	0.267	6.78	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.03	752.7	29.80	756.9	46.8	8.2	86	NW			1		10		NW	0.157	4.0	Covered	E. Renou, Director.
Tarbes, Normal School	28.92	734.6	30.02	762.6	46.4	8	100	W			1					0.008	0.004		T. Huguet, Director
Toulouse, Observatory	29.29	743.9	30.01	762.3	49.5	9.7	90	W			1		10			0.402	10.2	Covered	B. Baillaud, Dir.
Tours													8			0.110	2.8	¾ covered	M. de Tastes.
Versailles, Observatory	29.31	744.4	29.80	756.9	46.8	8.2	78	NW			1					0.113	2.88		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.12	739.6	29.84	757.8	51.4	10.8	86	ESE			1		5		W	0.126	3.2	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.6	24.2										0.12	3.		L'Abbé Marchési
Paris, Montsouris Obs'y	29.52	749.8			47.1	8.4	78	NNW			1		10		NW	0.083	2.1		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.53	775.4	30.55	776.0	32.2	0.1	83	NNE	1.3	0.6			0			0	0	Clear	Marc Dechevrens, J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.. Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.00	736.7	29.86	758.5	42.3	5.7	94	SW			6		10n	SW		0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	29.69	754.2	29.87	758.7	44.6	7.0	82	E			2		8			0.016	0.4		Prof. Dr. Arndt.
Breslau	29.37	746.1	29.90	759.5	47.3	8.5	66	WNW			1		3			0.069	1.76		Royal University Obs'y
Carlsruhe	29.39	746.6	29.82	757.4	49.3	9.6	82	SW			3		9	SW		0.374	9.5		Albert Senz.
Cassel	29.19	741.4	29.79	756.7	46.9	8.3	90	S			1		10	E		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.51	749.5	29.88	758.9	50.0	10.0	71	SSW			2		8			0.390	9.9		Physical Society.
Friedrichshafen	28.84	722.4	29.91	759.6	42.3	5.7	91	SE			1		10	S		0.976	24.8		Chief Telegrapher Wilhelm.
Hamburg	29.80	756.8	29.87	758.6	41.5	5.3	97	ESE			3		10			0	0		Dr. Reinhold Kleeman.
Kiel	29.91	759.7	29.93	760.1	38.5	3.6	93	SW			1		10			0.013	0.34		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.5	29.83	757.7	33.8	1.0	90	NW			2		10			0 051	1.3		Prof. E. Luther.
Köslin			29.89	759.3	35.6	2.0		NW			2		8			0	0		H. Müller.
Leipsic Observatory	29.43	747.5	29.85	758.3	46.4	8.0	85	SE			1		9			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.62	752.4	29.85	758.1	50.0	10.0	73	S			2		2s	E		0.075	1.9		Dr. Assmann.
Memel	29.77	756.2	29.82	757.4	31.3	— 0.4	94	NNW			4		10n						Reinbrecht & Issermann
Munich (München)	28.05	712.4	29.93	760.1	42.3	5.7	88	Calm			0		10	W		0.012	0.3		Dr. C. Lang.
Neufahrwasser	29.89	759.1	29.90	759.5	34.3	1.3	87	N			3		10			0.024	0.6		A. Lothes.
Neustadt (Palatinate)	29.27	743.5	29.80	756.8	49.6	9.8	86						8			0.150	3.8	Dense fog.	Reallehrer Dicknether.
Posen	29.61	752.2	29.91	759.7	40.3	4.6	82	W			4		2			0.079	2.0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.31	744.4	29.86	758.5	50.5	10.3	86	SSE			2		10	W	SW	0.334	8.48		Imp. University Observatory.
Stuttgart	28.89	733.7	29.79	756.6	48.7	9.3	79	SW			1		10			0.201	5.1		Prof. Dr. Schoder.
Thorn	29.74	755.5	29.93	760.3	40.8	4.9	77	SW			4		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.36	720.3	29.93	760.2	41.5	5.3	91		0.4	0.2			10		W	0.228	5.8	Raining	Reallehrer J. Hopfner
Wustrow	29.89	759.2	29.91	759.8	34.9	1.6	100	NNE			2		10			0	0	Dense fog	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.76	755.8	30.15	765.9	55.4	13.0		NE			1.0		5					½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	760.0	29.98	761.4	75.0	23.9	39	NW	7	3.1			0			0	0	Blue sky	
Deesa	29.54	750.3	30.02	762.4	81.7	27.6	26	W	7.5	3.4			0			0	0	Blue sky	
Bombay	29.90	759.6	29.94	760.5	74.7	23.7	71	NW	20	8.9			3	NW		0	0	D. clouds	
Poona (Yarrowda)	28.05	712.4	29.89	759.3	82.3	27.9	21	NW	14	6.3			3			0	0	D. clouds	
Belgaum	27.38	695.3	29.88	758.8	84.0	28.9	24	W	7	3.1			2	S		0	0	D. clouds	
Lahore	29.30	744.2	30.07	763.7	68.2	20.1	37	Calm	0.5	0.2			0			0	0	Blue sky	
Roorkee	29.10	739.2	30.04	762.9	62.8	17.1	61	SW	2.6	1.2			0			0	0		
Agra	29.49	749.0	30.07	763.8	69.7	20.9	40	Calm	2.5	1.1			0			0	0		
Nagpur	28.90	734.2	29.96	761.0	76.9	24.9	55	NE	5.5	2.5			0			0	0	Blue sky	
Jubbulpore	28.41	726.6	30.00	761.9	73.0	22.8	37	E	3.2	1.4			0			0	0	Blue sky	
Lucknow	29.69	754.2	30.09	764.2	64.3	17.9	46	NW	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.75	755.6	30.07	763.8	63.4	17.4	55	Calm	1.3	0.6			0			0	0	Blue sky	
Patna	29.88	758.8	30.06	763.6	68.0	20.0	46	WNW	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.97	710.4	30.05	763.2	64.3	17.9	60	NE	3.4	1.5			5			0	0		
Cuttack	29.98	761.4	30.06	763.5	73.5	23.1	72	E	2.8	1.2			9			0	0	D. clouds	
Calcutta (Alipore)	30.03	762.6	30.05	763.2	71.8	22.1	47	NNW	1.0	0.4			5		W	0	0	D. clouds	
Goalpara	29.61	752.1	30.01	762.3	69.1	20.6	42	Calm	3.6	1.6			0			0	0	Blue sky	
Chittagong	29.95	760.8	30.04	763.1	70.6	21.4	49	WNW	3.2	1.4			8			0	0	Misty	
Sibsagar	29.71	754.6	30.06	763.5	63.5	17.5	74	ENE	2.3	1.0			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.57	751.0	29.98	761.6	50.0	10.0	76	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.41	747.0	29.95	760.6	44.1	6.7	96	E	8.1	3.6	.....	.....	10	ESE	.....	0.492	12.5	.....	Prof. Schiaparelli.
Padua	29.87	758.7	29.98	761.6	48.2	9.0	77	NNE	3.8	1.7	.....	.....	10	SW	.....	0.012	0.3	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.81	756 8	29.94	760.5	44.4	6.9	93	N	0.7	0.3	.....	.....	10	.....	.....	0.217	5.5	.....	Prof. P. F. Denza.
Genoa	29.77	756.1	29.97	761.1	53.6	12.0	88	S	6.9	3.1	.....	.....	10	S	.....	0.075	1.9	.....	Prof. G. M. Garibaldi.
Mondovi	28.00	711.2	29.95	760.8	44.8	7.1	88	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.92	760.0	29.97	761 3	57.0	13.9	62	SW	13.0	5.8	.....	.....	8	SW	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.74	755.3	30.00	761.9	53.6	12.0	86	NW	.....	.....	2	.....	10	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.92	759.9	30.00	762.1	56.1	13.4	86	S	9.8	4.4	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.86	758.5	30.04	763.1	57.4	14.1	73	SSW	6.7	3.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.83	757.7	30.09	764.3	59.7	15.4	68	SE	9.8	4.4	.....	.....	7	SE	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.16	740.7	30.06	763.5	59.7	15.4	75	SE	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.77	756.2	29.97	761.3	60.3	15.7	70	S	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.82	757.4	30.08	763.9	58.8	14.9	73	NE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	30.02	762.5	30.07	763.6	56.5	13.6	85	SE	2.5	1.1	.....	.....	5	WSW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.8	30.05	763 2	56.3	13.8	72	WSW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.18	766.6	30.10	766.8	40.1	4.5	75	N	6.6	2.9	.....	2ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.08	764.0	30.30	769.6	41.2	5.1	64	N	5.8	2.6	.....	.....	10s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.99	761.7	30.08	763.5	38.5	3.6	59	N	7.7	3.4	.....	.....	10ck;s	.....	SW	0	0	Cloudy	The Staff.
Wakayama	30.10	764.5	30.16	766 0	40.1	4.5	66	NNE	7.4	3.3	.....	10ck	.....	.....	NW	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	637.0	30.21	767.2	48.2	9.0	47	SW	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. L. Perez.
Leon	24.45	621.0	30.19	766.8	55.0	12.8	63	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. M. Leal.
Mazatlan	29.73	755.0	29.99	761.7	61.5	16.4	89	SE	.....	.....	4	4cs	0	SW	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	23.09	586.5	30.22	767.5	46.6	8.1	54	Calm	0	0	.....	0	0	.....	.....	0	0	Dense fog	The Staff
Morelia	24.06	611.0	.....	.....	61.7	16.6	30	SE	.....	.....	3	1c	3k	SE	SW	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	23.99	609.3	30.10	764.4	47.3	8.5	50	Calm	.....	.....	0	0	0	.....	.....	0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.47	596.1	30.47	773.8	39.9	4.4	49	E	0.2	0.1	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.36	771.1	45.7	7 6	40	SE	.....	.....	1	0	0	.....	.....	0	0	Fine	G. Barroeta, M. D.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof M. M. Chazaro.
Vera-Cruz	30.05	765.2	30.08	763.9	69.8	21.0	86	Calm	0	0	.....	.....	3s	.....	.....	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.61	574.3	30.28	769.0	55.9	13.3	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C Castrillon

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.81	757.1	29.81	757.1	45.0	7.2	.....	WNW	.....	.....	0	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	29.75	755.7	29.81	757.1	45.3	7.4	.....	E	.....	.....	0	.....	.....	.....	.....	0	0	.....	
Helder	29.80	756.9	29.80	756.9	39 6	4.2	.....	E	.....	.....	0	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.79	756.6	29.79	756.6	44.8	7.1	86	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Utrecht	29.76	756.0	29.81	757.2	40.0	8.1	86	SW	.....	.....	0	.....	8	.....	.....	0.073	1.9	Very cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	29.91	759.7	29.97	761.1	42.1	5.6	85	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.92	760.0	29.96	761.0	34.9	1.6	85	NNW	9	4	.....	.....	9	.....	.....	0.047	1.2	.....	
Christiana	29.85	758.3	30.00	762.1	38.1	3.4	56	N	4	2	.....	.....	0	.....	.....	0.008	0.2	.....	
Tromsö	29.68	753.9	29.72	755.0	26.8	— 2.9	78	SW	4	2	.....	.....	10	.....	.....	0.083	2.1	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.15	765.7	30.36	771.1	56.8	13.8	69	ENE	.....	.....	3	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.23	742.4	30.24	768.2	54.7	12.6	83	W	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.95	760.6	30.03	762.8	70.9	21.6	40	E	11.9	5.3	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.92	759.9	30.28	769.2	56.3	13.5	45	NNW	16.1	7.2	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.30	769.6	59.4	15.2	60	ENE	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swel Height scale 0–9	Sea or swel Direction form—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. d. Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Q. anza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.95	760.6	79.7	26.5	.....	W	.....	.....	2	.....	3	.....	NW	2	W	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.12	765.0	75.9	24.4	.....	ENE	.....	.....	2	.....	8	.....	.....	2	NNF	D. clouds.....	A. de Souza Roza, 2nd L't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. N. 0° 27′, E. 6° 45′	.....	.....	29.94	760.5	86.4	30.2	.....	S	.....	.....	3	.....	4	.....	SSE	2	SSE	D. clouds.....	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.17	766.2	59.2	15.1	.....	N	.....	.....	3	.....	10	.....	N	1	.....	Foggy	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.47	748.4	29.48	748.9	8.6	—13.0	75	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.36	771.2	30.28	769.1	12.7	—10.7	60	ESE	11	5	.....	10cp	.....	.....	.....	.....	.....	Heavy clouds...	Capt. Wisganow.
Barnaul	29.70	754.3	30.25	768.3	9.5	—12.5	88	SW	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Dorpat	29.51	749.6	29.77	756.2	18.0	— 7.8	83	NNW	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.88	733.5	29.93	760.3	3.7	—15.7	63	W	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.67	753.5	29.96	761.0	4.8	—15.1	92	SSE	13	6	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Physical Cabinet.
Kertch	30.02	762.6	30.04	763.1	29.8	— 1.2	92	ESE	2	1	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.08	738.6	29.73	755.2	35.8	2.1	96	SW	4	2	.....	.....	10ksm	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.61	752.2	30.14	765.5	6.3	—14.3	67	S	18	8	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjano w.
Lugan	29.85	758.2	30.08	763.9	15.8	— 9.0	63	ESE	9	4	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Moscow	29.05	737.8	29.63	752.5	22.1	— 5.5	75	S	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.13	714.6	30.81	782.6	—17.3	—27.4	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.91	759.6	29.98	761.4	34.0	1.1	94	SSW	9	4	.....	.....	10m	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	30.17	766.4	30.45	773.4	22.3	— 5.4	73	ENE	7	3	.....	.....	1ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.68	753.9	29.70	754.3	16.5	— 8.6	73	NNE	11	5	.....	ck	2s	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.85	732.8	30.59	776.9	16.2	— 8.8	69	N	4	2	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.59	726.3	30.07	763.8	34.7	1.5	32	Calm	0	0	.....	.....	8s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.43	747.4	29.86	758.5	37.8	3.2	89	W	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.28	743.6	29.71	754.6	34.2	1.2	96	W	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	29.96	760.9	30.27	768.9	10.8	—11.8	83	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.83	757.6	29.93	760.3	64.4	18	44	WNW	8.9	1.75	.....	.....	1cs	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.06	763.4	30.11	764.9	54.1	12.3	68	NW	3.3	1.4	.....	.....	10	.....	.....	0.217	5.5	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.5	.....	.....	46.8	8.2	60	W	9.5	4.24	.....	0	7	.....	.....	0.134	3.4	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.84	707.1	30.09	764.3	53.1	11.7	54	NW	23.1	10.34	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.87	758.7	30.02	762.4	73.6	23.1	40	SW	1.7	0.75	.....	1	2	NE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.27	743.5	30 19	766.8	47.3	8.5	75	NE	9.8	4.4	.....	.....	4	.....	.....	0.248	6.3	Rainy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.00	762.0	30.07	763.7	72.9	22.7	72	NW	1.8	0.8	.....	0	6k	.....	NW	0	0	Fair.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.97	761.1	30.02	762.4	82.7	28.2	80	N	6.6	3.0	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.12	765.1	30.22	767.6	58.1	14.5	85	W	4.2	1.9	.....	0	1	.....	NW	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	761.0	30.05	763.3	71.2	21.8	85	SW	0	0	.....	1s	0	E	.....	0.089	2.25	Clear.	Enrique Gades, Chief Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.4	29.74	755.4	22.6	— 5.2	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.75	755.0	29.80	756.8	23.0	— 5.0	90	Calm	.....	.....	0	.....	6	.....	.....	0	0	.....	
Hernosand	29.82	757.4	29.87	758.7	33.4	0.8	78	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.76	755.8	29.93	760.3	26.2	— 3.2	74	NW	.....	.....	2	.....	2	.....	.....	0.016	0.4	.....	
Wisby	29.80	757.0	29.86	758.5	29.1	— 1.6	84	NNE	.....	.....	4	.....	10	.....	.....	0.004	0.1	.....	
Sub-Series.																			
Upsala	29.82	757.5	29.91	759.7	21.6	— 5.8	80	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.45	722.5	29.90	759.4	45.3	7.4	86	NNW	.....	.....	8	.....	10	.....	.....	0.220	5.6	Covered	The Observatory.
Zurich	28.25	717.6	29.94	760.4	40.3	4.6	95	SE	.....	.....	1	.....	10	.....	.....	0.630	16.0	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, −3.4 mm.; Thermometer, +2.8 Cent. Relative Humidity, +16 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.5	49.5	9.7	67	WSW	4	2.0	.....	.....	8	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.2	62.2	16.8	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightlycld'y	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.04	762.9	54.1	12.3	94	WSW	.....	.....	8	.....	10n	.....	SW	0.71	18.0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.10	2.5	.....	Hon. J. Ferguson.
Chatham, N. B	29.59	751.6	29.66	753.4	18.2	— 7.7	84	SW	2	0.9	.....	2k	0	SW	.....	0.38	9.7	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.65	753.1	23.2	— 4.9	84	W	9	4.0	.....	0	0	.....	.....	0.20	5.1	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.66	753.4	29.86	758.4	15.8	— 9.0	84	NW	.....	.....	1	.....	9s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.49	749.0	29.68	753.9	17.5	— 8.1‡	.....	W	.....	.....	4	.....	8n	.....	.....	0.20	5.1	Snowing	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	13.8	—10.1	91	W	40	17.9	.....	5ck	2s	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.71	754.6	29.78	756.4	17.0	— 8.3	87	S	1	0.4	.....	0	0	.....	.....	0.37	9.4	Clear	Prof. Harrison.
Fort Garry, Manitoba	28.87	733.3	29.78	756.4	2.8	—16.2	95	W	4	1.8	.....	.....	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.68	728.5	29.85	758.2	20.3	— 6.5	98	SW	.....	.....	2	8cs	0	NW	.....	Inap.	Inap.	Fair	James Grant.
Halifax, N. S	29.65	753.1	29.70	750.7	28.0	— 2.2	87	W	6	2.7	.....	0	8ks	.....	.....	0.382	9.70	Fair	A. Allison.
Hamilton, Ontario	29.49	749.0	29.88	758.9	26.7	— 2.9	87	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.52	749.8	29.88	758.9	19.0	— 7.2	90	.....	7	3.1	.....	5c	0	.....	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	SW	8	3.6	.....	6k	0	SW	.....	0	0	Fair	C. H. Rigby.
Montreal, Quebec	29.56	753.4	29.87	758.7	16.6	— 8.6	79	W	6	2.7	.....	Haze	0	.....	.....	0.16	4.1	Clear	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nesson.
Norwood, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.05	737.9	29.79	756.7	17.1	— 8.3	83	NE	3	1.3	.....	2ck	4ks	W	.....	0.30	7.6	.....	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.88	758.9	14.6	— 9.7	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.14	740.1	29.87	758.7	27.0	— 2.8	88	SW	8	3.6	.....	5ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.18	741.1	29.86	758.2	29.2	- 1.6	77	SW	11	4.9	.....	5k	0	SW	.....	0.10	2.5	Fair	H. Payne.
Quebec, Quebec	29.48	748.8	29.83	757.7	9.0	—12.8	57	W	.....	.....	5	0	0	.....	.....	0.01	0.3	Fair	Capt. Ashe, R. N.
Rockliffe, Ontario	29.32	744.7	29.83	757.7	1.1	—17.2	77	Calm	0	0	.....	.....	9s	.....	.....	0.10	2.5	Clear	W. H. McIntyre.
St. John, N. B	29.64	752.8	29.81	757.2	23	— 5.0	73	NW	8	3.6	.....	1c	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.03	737.3	29.79	756.7	22.1	— 5.5	90	S	14	6.3	.....	6ck	0	SW	.....	0.48	12.2	Fine	Mrs. K. Stewart.
Stratford, Ontario	28.48	723.4	29.84	757.9	20.0	— 6.7	92	Calm	0	0	.....	0	0	.....	.....	0.25	6.3	Fair	C. J. MacGregor, M. A.
Sydney, C. B	29.54	750.3	29.58	751.3	31.0	— 0.6	84	SW	21	9.4	.....	0	8ks	.....	.....	0.10	2.5	Clear	T. C. Hill, C. E.
Toronto, Ontario	29.46	748.3	29.86	758.4	26.8	— 2.9	84	SW	9	4.0	.....	2ck	8s	W	.....	0.31	7.9	Clearing	Magnetic Observatory
Windsor, N. S	29.64	752.8	29.74	755.4	26.0	— 3.3	88	W	11	4.9	.....	3k	0	.....	.....	0.030	0.76	Fair	Prof. John E. Oram, M.A.
Woodstock, Ontario	28.72	729.5	29.84	757.9	23.4	— 4.8	91	S	13	5.8	.....	6k	0	W	.....	0.61	15.5	Fair	Professor Wolverton.
Yarmouth, N. S	29.70	755.9	29.83	757.7	30.5	— 0.8	77	NW	5	2.2	.....	5k	0	NW	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.03	762.7	29	— 1.7	100	S	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.53	750.0	33.8	1.0	.....	S	.....	.....	4	.....	.....	.....	.....	0.16	4.1	.....	The Commandant.
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	29.72	754.9	29.96	761.0	30	— 1.1	78	W	2	0.9	.....	5k	0	W	.....	0.04	1.0	Fair	.....
Alpena, Michigan	29.04	737.6	29.70	754.4	23	— 5.0	86	SW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	.....
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Georgia	28.88	733.5	30.06	763.5	39	3.9	63	NW	6	2.7	.....	10c	0	Calm	.....	0	0	Cloudy	.....
Atlantic City, New Jersey	30.01	762.2	30.03	762.7	29	— 1.7	78	NW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	.....
Augusta, Georgia	29.93	760.2	30.14	765.5	39	3.9	91	NW	4	1.8	.....	.....	Fog	.....	Calm	0.	0	Dense fog	.....
Baltimore, Maryland	29.98	761.5	30.03	762.7	35	1.7	70	Calm	0	0	.....	5ck	Fog	W	Calm	0.15	3.8	Fair	.....
Barnegat, New Jersey	29.99	761.7	30.01	762.2	32	0.0	59	NW	11	4.9	.....	0	0	.....	.....	0.06	1.5	Clear	.....
Bismarck, Dakota	27.93	709.4	29.78	756.4	28	— 2.2	88	NW	6	2.7	.....	0	5s	.....	Calm	0	0	Fair	.....
Boerne, Texas	28.57	725.7	29.87	758.7	58	14.4	100	SW	2	0.9	.....	.....	Fog	.....	SW	0	0	Dense fog	.....
Boise City, Idaho	27.21	691.1	30.17	766.3	30	— 1.1	78	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Boston, Massachusetts	29.76	755.9	29.93	760.2	29	— 1.7	78	W	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	.....
Brackettville, Texas	28.81	731.8	29.86	758.4	54	12.2	93	E	5	2.2	.....	.....	10ks	.....	E	0	0	Cloudy	.....
Breckenridge, Minnesota	28.69	728.7	29.72	754.9	22	— 5.6	86	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Brownsville, Texas	29.99	761.7	30.04	763.0	69	20.6	90	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	.....
Buffalo, New York	29.13	739.9	29.84	757.9	30	— 1.1	73	SW	5	2.2	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	.....
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington, Vermont	29.59	751.6	29.90	759.4	24	— 4.4	74	NE	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	.....
Cairo, Illinois	29.65	753.1	30.05	763.3	43	6.1	75	S	8	3.6	.....	8c	0	W	.....	0	0	Fair	.....
Campo, California	27.43	696.7	30.00	762.0	38	3.3	91	Calm	0	0	.....	.....	10s	.....	SW	0.37	9.4	Cloudy	.....
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	48	8.9	63	NE	17	7.6	.....	Haze	Haze	.....	.....	1.00	25.4	Hazy	.....
Cape Henry, Virginia	30.03	762.7	30.05	763.3	44	6.7	45	N	14	6.3	.....	0	0	.....	.....	0.31	7.9	Clear	.....
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	46	7.8	77	NE	16	7.2	.....	0	0	.....	.....	0.31	7.9	Clear	.....
Cape May, New Jersey	29.99	761.7	30.02	762.5	37	2.8	54	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
Castroville, Texas	29.24	742.7	29.95	760.7	55	12.8	100	W	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	.....
Cedar Keys, Florida	30.07	763.8	30.10	764.5	53	11.7	80	NE	14	6.3	.....	0	2s	.....	NE	0	0	Fair	.....
Charleston, South Carolina	30.00	762.0	30.06	763.5	46	7.8	62	NE	11	4.9	.....	0	0	.....	.....	0.22	5.6	Clear	.....
Charlotte, North Carolina	29.18	741.1	30.02	762.5	38	3.3	72	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	.....
Chattanooga, Tennessee	29.26	743.2	30.10	764.5	34	1.1	79	Calm	0	0	.....	2cs	Sm'e	NW	.....	0.04	1.0	Fair	.....
Cheyenne, Wyoming	23.89	606.8	29.83	757.7	37	2.8	38	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	.....
Chicago, Illinois	29.08	738.6	29.78	756.4	36	2.2	61	W	6	2.7	.....	2ck	2s	W	W	0	0	Fair	.....
Cincinnati, Ohio	29.32	744.7	29.99	761.7	36	2.2	71	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Cleveland, Ohio	29.14	740.1	29.89	759.2	28	— 2.2	77	S	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	.....
Coleman City, Texas	28.20	716.3	29.83	757.7	60	15.6	55	SW	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	.....
Columbus, Ohio	29.07	738.4	29.93	760.2	34	1.1	61	S	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	.....
Concho, Texas	28.21	716.5	29.80	758.4	65	18.3	54	W	.....	.....	2	8cs	0	Calm	.....	0	0	Fair	.....
Corsicana, Texas	29.51	749.5	29.98	761.5	54	12.2	93	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Davenport, Iowa	29.16	740.7	29.82	757.4	31	— 0.6	79	Calm	0	0	.....	2cs	0	W	.....	0	0	Fair	.....
Dayton, Washington T'y	.....	.....	.....	.....	25	— 3.9	94	SW	.....	.....	1	.....	Fog	.....	Calm	0	0	Foggy	.....
Deadwood, Dakota	29.20	610.1	.....	.....	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Decatur, Texas	28.76	730.5	29.93	760.2	56	13.3	81	NE	4	1.8	.....	10cs	0	SW	.....	0	0	Cloudy	.....
Delaware Breakwater, Del.	30.02	762.5	30.04	763.0	39	3.9	55	N	10	4.5	.....	2ck	0	W	.....	Inap.	Inap.	Fair	.....
Denison, Texas	29.15	740.4	29.94	760.5	53	11.7	93	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Denver, Colorado	24.67	626.6	29.89	759.2	37	2.8	45	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	.....
Des Moines, Iowa	28.88	733.5	29.78	756.4	29	— 1.7	78	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	.....
Detroit, Michigan	29.10	739.1	29.79	756.7	28	— 2.2	88	SW	8	3.6	.....	5cs	0	.....	.....	0.02	0.5	Fair	.....
Dodge City, Kansas	27.17	690.1	29.47	748.5	36	2.2	45	NW	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	.....
Dubuque, Iowa	29.10	739.1	29.82	757.4	28	— 2.2	66	Calm	0	0	.....	1c	Fog	Calm	Calm	0	0	Fair	.....
Duluth, Minnesota	29.03	737.3	29.74	755.4	18	— 7.8	84	SW	1	0.4	.....	.....	10s	.....	NW	0	0	Cloudy	.....
Eagle Pass, Texas	29.23	742.4	29.96	761.0	58	14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Eastport, Maine	29.71	754.6	29.78	756.4	24	— 4.4	74	W	6	2.7	.....	0	0	.....	.....	0.25	6.3	Clear	.....
Edinburg, Texas	.....	.....	.....	.....	67	19.4	95	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	.....
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pennsylvania	29.16	740.7	29.90	759.4	29	— 1.7	78	S	8	3.6	.....	5ck	0	Calm	.....	0.04	1.0	Fair	.....
Escanaba, Michigan	29.00	736.6	29.69	754.1	18	— 7.8	53	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Florence, Arizona	28.50	723.9	30.10	764.5	45	7.2	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Apache, New Mexico	25.01	635.2	30.46	773.7	48	8.9	85	SE	7	3.1	.....	0	5s	.....	Calm	0	0	Fair	.....
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Buford, Dakota	27.78	705.6	29.68	753.9	25	— 3.9	87	W	2	0.9	.....	1c	0	NW	.....	0	0	Clear	.....
Fort Custer, Montana	26.73	678.9	.....	.....	33	0.6	89	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	.....
Fort Davis, Texas	25.22	640.6	30.18	766.6	43	6.1	67	W	1	0.4	.....	2cs	0	SW	.....	0	0	Fair	.....
Fort Gibson, Indian Ter	29.37	746.0	29.91	759.7	46	7.8	77	SE	3	1.3	.....	10cs	0	S	.....	0	0	Cloudy	.....
Fort Grant, Arizona	25.24	641.1	30.04	763.0	47	8.3	49	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Griffin, Texas	28.65	727.7	29.88	758.9	63	17.2	72	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Keogh, Montana	27.13	689.1	.....	.....	31	— 0.6	79	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Fort McKavett, Texas	27.73	704.3	29.64	752.8	52	11.1	73	SW	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.66	728.0	29.77	756.1	48	8.9	93	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort Stevenson, Dakota	27.87	707.9	.....	.....	25	— 3.9	75	W	16	7.2	.....	2c	0	W	.....	0	0	Fair	.....
Fort Verde, Arizona	.....	.....	.....	.....	37	2.8	81	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	.....
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fredericksburg, Texas	28.18	715.8	29.71	754.6	62	16.7	61	S	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	.....
Galveston, Texas	30.02	762.5	30.07	763.8	63	17.2	94	S	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	.....
Grand Haven, Michigan	29.04	737.6	29.6	754.1	35	1.7	80	W	18	8.0	.....	5k	0	W	.....	0	0	Fair	.....
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henrietta, Texas	29.00	736.6	29.94	760.5	53	11.7	80	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	.....
Indianapolis, Indiana	29.09	738.9	29.89	759.2	34	1.1	70	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
Indianola, Texas	30.04	763.0	30.07	763.8	63	17.2	100	SE	4	1.8	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	.....
Jacksboro, Texas	28.74	730.0	29.85	758.2	55	12.8	87	SW	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	.....
Jacksonville, Florida	30.07	763.8	30.09	764.3	50	10.0	65	NW	2	0.9	.....	0	0	.....	.....	0.15	3.8	Clear	.....
Keokuk, Iowa	29.16	740.7	29.78	756.4	36	2.2	71	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	.....
Key West, Florida	30.02	762.5	30.05	763.3	73	22.8	81	NW	18	8.0	.....	8k	0	N	.....	0	0	Cloudy	.....
Kittyhawk, North Carolina	30.03	762.7	30.06	763.5	44	6.7	60	NE	19	8.5	.....	0	0	.....	.....	0.21	5.3	Clear	.....
Knoxville, Tennessee	29.08	738.6	30.13	765.3	29.5	— 1.4	95	Calm	0	0	.....	2cs	Fog	Calm	Calm	0	0	Fair	.....
La Crosse, Wisconsin	29.02	737.1	29.78	756.4	29	— 1.7	67	S	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	.....
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	69	15.6	88	SE	1	0.4	.....	0	5s	.....	Calm	0.12	3.0	Fair	.....
Laredo, Texas	29.64	752.8	29.99	761.7	56	13.3	81	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	.....
Leavenworth, Kansas	28.94	735.1	29.79	756.7	38	3.3	72	S	3	1.3	.....	5cs	0	W	.....	0	0	Fair	.....
Lewiston, Idaho	.....	.....	.....	.....	26	— 3.3	77	E	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	.....
Little Rock, Arkansas	29.71	754.6	30 08	764.0	42	5.6	91	S	2	0.9	.....	5ck	0	W	.....	0	0	Fair	.....
Los Angeles, California	29.76	755.9	30.11	764.8	43.0	6.1	87	NW	3	1.3	.....	0	5s	.....	Calm	0.62	15.7	Fair	.....
Louisville, Kentucky	29.40	746.7	29.97	761.2	39	3.9	73	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	.....
Lynchburg, Virginia	29.32	744.7	30.02	762.5	37	2.8	71	S	2	0.9	.....	5cs	0	W	.....	Inap.	Inap.	Fair	.....
Madison, Wisconsin	28.72	729.5	29.72	754.9	30	— 1.1	68	SW	7	3.1	.....	1cs	0	W	.....	0	0	Clear	.....
Marquette, Michigan	28.96	735.6	29.70	754.4	22	— 5.6	72	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	.....
Mason, Texas	28.34	719.8	30.09	764.3	57	13.9	63	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Memphis, Tennessee	29.72	754.9	30.07	763.8	41	5.0	82	SE	7	3.1	.....	2c	0	W	.....	0	0	Clear	.....

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	CLOUDS. Amount. Lo'er. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	28.99	736.3	29.74	755.4	28	— 2.2	77	W	11	4.9	.....	1cs	0	Calm	.....	0	0	Clear.	
Mobile, Alabama	30.11	765.0	30.17	766.3	41	5.0	91	N	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.	
Montgomery, Alabama	29.90	759.4	30.15	765.8	37	2.8	100	NW	1	0.4	.....	.....	Fog	.....	Calm	0.09	2.3	Dense fog.	
Morgantown, West Virginia	28.97	735.8	29.99	761.7	36	2.2	61	SW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear	
Mt. Washington, N. H.	23.20	589.3	29.56	750.8	6	—14.4	100	NW	60	26.8	.....	.....	Fog	.....	NW	0.31	7.9	Foggy	
Nashville, Tennessee	29.53	750.0	30.08	764.0	39	3.9	64	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	29.85	758.2	29.97	761.2	29	— 1.7	67	Calm	0	0	.....	5cs	0	Calm	.....	0.17	4.3	Fair	
New London, Connecticut	29.80	756.9	29.95	760.7	31	— 0.6	73	NW	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear	
New Orleans, Louisiana	30.07	763.8	30.13	765.3	57	13.9	87	N	3	1.3	.....	.....	Fog	.....	Calm	0.08	2.0	Foggy	
Newport, Rhode Island	29.84	757.9	29.90	759.4	33	0.6	61	W	22	9.8	.....	0	0	.....	.....	0.31	7.9	Clear.	
New River, North Carolina	.....	.....	.....	.....	38	3.3	90	N	.....	.....	4	0	Sm'e	.....	Calm	.....	.....	Light smoke	
New York, New York	29.81	757.2	30.00	762.0	31	— 0.6	68	W	2	0.9	.....	0	8ks	.....	W	0.04	1.0	Cloudy	
Norfolk, Virginia	30.00	762.0	30.00	763.5	37	2.8	81	Calm	0	0	.....	0	Fog	.....	Calm	0.20	5.1	Dense fog.	
North Platte, Nebraska	26.91	683.5	29.59	751.6	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	30.5	— 0.8	94	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.59	726.2	29.71	754.6	30	— 1.1	78	SW	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
Oswego, New York	29.57	751.1	29.90	759.4	33	0.6	70	SW	4	1.8	.....	0	8ks	.....	N	0.15	3.8	Fair	
Pembina, Dakota	28.80	731.5	29.68	753.9	12	—11.1	100	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.16	766.1	30.19	766.8	46	7.8	77	NE	3	1.3	.....	0	Fog	.....	Calm	0.03	0.8	Foggy	
Philadelphia, Pennsylvania	29.96	761.0	30.01	762.2	34	1.1	61	NW	7	3.1	.....	5ck	Haze	W	Calm	0.26	6.6	Fair	
Phœnix, Arizona	28.86	733.0	30.70	779.8	48	8.9	63	N	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	17.59	446.8	29.80	756.9	10	—12.2	58	SW	19	8.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Pilot Point, Texas	29.34	745.2	30.18	766.6	45	7.2	60	N	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Pioche, Nevada	23.90	607.0	29.66	753.4	28	— 2.2	77	S	11	4.9	.....	0	0	.....	.....	0.13	3.3	Clear	
Pittsburg, Pennsylvania	29.13	739.9	29.97	761.2	29	— 1.7	67	W	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Port Huron, Michigan	29.08	738.6	29.77	756.1	28	— 2.2	77	S	13	5.8	.....	10cs	0	W	.....	Inap.	Inap.	Cloudy	
Portland, Maine	29.79	756.7	29.84	757.9	30	— 1.1	68	W	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear.	
Portland, Oregon	30.04	763.0	30.12	765.0	33	0.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Portsmouth, North Carolina	.....	.....	.....	.....	47	8.3	70	NE	24	10.7	.....	0	0	.....	.....	0.12	3.0	Clear.	
Prescott, Arizona	24.72	627.9	30.08	764.0	29	— 1.7	89	Calm	0	0	.....	5c	2s	S	S	0	0	Cloudy	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	69	20.6	85	W	8	3.6	.....	0	1ks	.....	W	0	0	Clear	
Red Bluff, California	29.73	755.1	30.10	764.5	45	7.2	92	SE	8	3.6	.....	.....	10n	.....	.....	0.06	1.5	Light rain	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	65	18.3	89	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Rochester, New York	29.22	742.2	29.86	758.4	28	— 2.2	77	SW	5	2.2	.....	5k	0	W	.....	0.09	2.3	Fair	
Roseburg, Oregon	29.51	749.5	30.09	764.3	37	2.8	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.02	762.5	30.10	764.5	42	5.6	91	SE	13	5.8	.....	.....	10n	.....	Calm	0.22	5.6	Light rain.	
St. Louis, Missouri	29.33	745.0	29.92	760.0	39	3.9	55	S	9	4.0	.....	5cs	0	W	.....	0	0	Fair	
St. Paul, Minnesota	28.86	733.0	29.71	754.6	26	— 3.3	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	26.55	649.0	29.88	758.9	36	2.2	71	NW	4	1.8	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy.	
San Antonio, Texas	29.35	745.5	29.94	760.5	56	13.3	100	E	5	2.2	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
San Diego, California	30.00	762.5	30.14	765.5	44	6.7	84	NE	5	2.2	.....	0	1ks	.....	Calm	0.16	4.1	Clear.	
Sandusky, Ohio	29.17	740.9	29.86	758.4	32	0.0	79	S	13	5.8	.....	Haze	0	Calm	.....	0	0	Clear	
Sandy Hook, New Jersey	29.96	761.0	30.00	762.0	34	1.1	70	W	11	4.9	.....	2c	0	NW	.....	0.02	0.5	Fair	
San Francisco, California	30.02	762.5	30.08	764.0	46	7.8	92	SE	6	2.7	.....	.....	10n	.....	SE	0.16	4.1	Light rain	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	15	— 9.4	48	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Savannah, Georgia	29.99	761.7	30.08	764.0	44	6.7	84	NW	6	2.7	.....	1c	0	W	.....	0.05	1.3	Clear.	
Shreveport, Louisiana	29.84	757.9	30.06	763.5	54	12.2	93	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.03	762.7	30.07	763.8	40	4.4	73	NW	7	3.1	.....	0	0	.....	.....	0.33	8.4	Clear.	
Socorro, New Mexico	26.40	645.2	29.47	748.5	46	7.8	84	SE	7	3.1	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Springfield, Illinois	29.18	741.1	29.86	758.4	40	4.4	52	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	29.82	757.4	29.95	760.7	33	0.6	61	SW	2	0.9	.....	0	2ks	.....	NW	0.02	0.5	Fair	
Stockton, Texas	26.98	685.3	29.98	761.5	54	12.2	26	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.85	758.2	29.91	759.7	31	— 0.6	89	W	15	6.7	.....	0	0	.....	.....	0.01	0.3	Clear.	
Toledo, Ohio	29.10	739.1	29.80	756.9	33	0.6	70	SE	10	4.5	.....	1c	0	W	.....	0	0	Clear.	
Tucson, Arizona	27.55	699.8	30.10	764.5	50	10.0	51	NW	3	1.3	.....	2k	2s	S	S	0	0	Fair	
Umatilla, Oregon	29.80	756.2	30.42	772.7	26	— 3.3	88	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Uvalde, Texas	29.10	739.1	29 92	760.0	57	13.9	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29 87	758.7	30.14	765.5	40	4.4	95	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.17	613.9	29.65	753.1	27	— 2.8	76	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.71	754.6	30.10	764.5	36.5	2.5	90	E	1	0.4	.....	0	5s	.....	Calm	1.20	30.5	Fair	
Washington, D. C.	29.93	760.2	30.05	763.3	32	0.0	79	NW	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	89	NW	.....	.....	1	2c	0	SW	.....	0	0	Fair	
Wilmington, North Carolina	29.97	761.2	30.05	763.3	38	3.3	63	N	5	2.2	.....	0	0	.....	.....	0.08	2.0	Clear	
Winnemucca, Nevada	23.51	647.0	29.87	758.7	24	— 4.4	74	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	29.88	758 9	29.92	760.0	35	1.7	90	NW	20	8.9	.....	0	0	.....	.....	0.27	6.9	Clear.	
Yankton, Dakota	28.47	723.1	29.81	757.2	25	— 3.9	62	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.91	759.7	30.06	763.5	48	8.9	56	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Bogota, U. S. Colombia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.7	72	22.2	75	NW	6.0	2.7	.....	0	4ks	.....	NW	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	86	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	75	23.9	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	76	24.4	91	E	.....	.....	2	.....	10n	.....	.....	1.300	33.02	Rainy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.22	744.7	29.87	758.7	80	26.7	80	N	.....	.....	3	.....	2s	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.12	765.0	30.18	766.6	—29.0	—33.9	.....	SW	11	4.9	.....	0	2s	.....	NW	0	0	Fair	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 549 (?) m.; Pike's Peak, 14,-160.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.83 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15‡	765.81‡	.....	.....	46	7.8	84	NW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H.	29.95‡	760.73‡	.....	.....	29	— 1.7	100	WNW	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.03‡	762.73‡	.....	.....	39.5	4.2	47	NE	.....	.....	3	ck	10s	.....	SW	0.19	4.8	.....	.....	Lightly cov'd	
Adams, N. 15° 27′, W. 97° 14′	29.97‡	761.23‡	.....	.....	79	26.1	82	NNW	.....	.....	2	.....	1	.....	N	.....	.....	Smooth	NE	Clear.	
Colorado, New York, N. Y.	29.95‡	760.73‡	.....	.....	33	0.6	.....	S	.....	.....	1	.....	8	.....	S	0	0	.....	.....	Cloudy	
Constitution, Aspinwall, Panama	29.96‡	761.03‡	.....	.....	77	25.0	91	NNE	.....	.....	6	.....	6	.....	SSE	.....	.....	Mod'ate	NNE	Pleasant	
Enterprise. Naples, Italy	30.14‡	765.53‡	.....	.....	59	15.0	76	Calm	.....	.....	0	.....	10	.....	NNW	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.05‡	763.33‡	.....	.....	36	2.2	80	E	1	0.4	.....	.....	8	.....	SE	0	0	.....	.....	Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.06‡	763.53‡	.....	.....	45	7.2	92	SE	1.2	0.5	.....	.....	0?	.....	.....	0.175	4.52	.....	.....	Rainy	
Kearsarge, Boca del Toro, Chiriqui	30.03‡	762.73‡	.....	.....	74	23.3	81	NNW	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	.....	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.†	30.03‡	762.73‡	.....	.....	50	10.0	93	SE	.....	.....	0-1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Marion, S. 34° 56′, W. 55° 55′	29.85‡	758.23‡	.....	.....	74	23.3	95	N	.....	.....	2	.....	5	.....	N	0	0	Smooth	.....	Fair	
Michigan. Erie, Pa.	29.96‡	761.03‡	.....	.....	28	— 2.2	66	S	.....	.....	2	.....	5?	.....	W	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China.	30.51‡	774.93‡	.....	.....	35	1.7	80	NNE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.12‡	765.03‡	.....	.....	48	8.9	78	NNE	8	3.6	.....	.....	5	.....	N	0	0	.....	.....	Fair	
Nipsic. N. 24° 28′ W. 67° 41′	29.90‡	759.43‡	.....	.....	73	22.8	76	NW	.....	.....	4	.....	5	.....	.....	.....	.....	Smooth	.....	D. clouds	
Onward, Callao, Peru	29.89‡	759.23‡	.....	.....	70	21.1	90	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Fair	
Palos, Tientsin, China.	30.50‡	774.73‡	.....	.....	34	1.1	70	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	29.99‡	761.73‡	.....	.....	33	0.6	70	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, N. 2° 56′, W. 80° 26′	29.90‡	759.43‡	.....	.....	74	23.3	90	N	.....	.....	3	.....	.....	.....	.....	.....	.....	Smooth	.....	D. clouds	
Powhatan, Norfolk, Va.	30.05‡	763.33‡	.....	.....	38	3.3	81	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Quinnebaug, Leghorn, Italy	29.99‡	761.73‡	.....	.....	56	13.3	87	SSE	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy	
Richmond. Hong-Kong, China.	30.29‡	769.43‡	.....	.....	53	11.7	80	NNE	.....	.....	1-2	.....	10	.....	.....	0.02	0.5	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.16‡	766.13‡	.....	.....	68	20.0	100	SE	2	0.9	.....	.....	10	.....	SE	0	0	.....	.....	Cloudy	
Santee. Annapolis, Md	30.05‡	763.33‡	.....	.....	34	1.1	.....	Calm	.....	.....	0	.....	8	.....	N;W	0	0	.....	.....	Cloudy	
Shenandoah, Montevideo, Uruguay	29.80‡	756.93‡	.....	.....	77	25.0	91	NW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Fair	
St. Louis, League Island, Pa.	30.01‡	762.23‡	.....	.....	30	— 1.1	.....	NW	3	1.3	.....	.....	5	.....	NW	0	0	.....	.....	Fair	
Swatara, N. 36° 20′, W. 27° —	30.10‡	764.53‡	.....	.....	65	18.3	89	SW	.....	.....	3	.....	2	.....	W	.....	.....	Smooth	.....	Clear.	
Tennessee, Norfolk, Va.	30.06‡	763.53‡	.....	.....	35	1.7	70	S	1	0.4	.....	.....	1	.....	Calm	0	0	Smooth	.....	Clear	
Trenton, Toulon, France	29.96‡	761.03‡	.....	.....	56	13.3	87	SE	.....	.....	2	.....	10	.....	.....	1 h'r	1 h'r	.....	.....	Cloudy	
Tuscarora, N. 15° 59′, W. 97° 52′	29.96‡	761.03‡	.....	.....	76	24.4	64	NNW	.....	.....	2	.....	0	.....	.....	0	0	Long	S	Clear.	
Vandalia. Navy Yard, Brooklyn, N.Y.	29.97‡	761.23‡	.....	.....	33	0.6	70	W	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass.	29.87‡	758.73‡	.....	.....	30	— 1.1	100	WSW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Wachusett, Montevideo, Uruguay	30.37‡	771.43‡	.....	.....	76	24.4	86	N	.....	.....	3	.....	2	.....	N	.....	.....	Smooth	N	Fair	
Wyoming, Naples, Italy	30.05‡	763.33‡	.....	.....	58	14.4	70	SSW	.....	.....	0-1	.....	10	.....	SW	.....	.....	Smooth	SW	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'er 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks....																			W. E. Jago.
S. S. Circassian,.....																			R. Carruthers.
S. S. Hibernian, F. Archer.																			
S. S. Moravian, J. Graham, N. 54° 00', W. 21° 05'.....	30.11‡	764.8‡	52	11.1	86	WSW			4		8		W	0	0	Mod'ate	NE	Fair.....	John France.
S. S. Peruvian,.....																			
S. S. Sardinian, J. E. Dutton N. 44° 34', W. 62° 45'..	29.75‡	755.6‡				WNW			6		5?		NW			Heavy	S	Clear?.....	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Liverpool, Eng.....	29.86‡	758.4‡	54	12.2	93	WNW			6		8		WSW	Mod'ate	Mod'ate			Cloudy.	
S. S. Ohio, Henry Morrison, N. 42° 56', W. 51° 28'....†*.	30.17‡	766.3‡	35	1.7		SSE			5		8		SSE	0	0	Mod'ate	SSE	Cloudy.....	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger, N. 36° 00', W. 121° 44 ...†.	30.32‡	770.1‡				Calm			0		8		NW			Mod'ate	W	Cloudy.....	

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle.....																			
S. S. Braunschweig, C. Undutsch....																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 47° 05', W. 41° 21'.....	30.38‡	771.6‡	36.0	2 2	86	WNW			5		8		W	1 h'r	1 h'r	Mod'ate	WNW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,.																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China.....†.	30.24‡	768.1‡	53	11.7	93	N			2		5		N					Cloudy?	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal...†	29.94‡	760.5‡				SE			5		ns		SE	Con-sid'ble	Con-sid'ble	Smooth		Raining.....	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan...																			
S. S. Oregon.....																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal.....†.	30.08‡	764.0‡	47	8.3	.....	SE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Light rain...	
S. S. Idaho, E. Alexander...																			
S. S. Orizaba.....																			
S. S. State of California, G. Debney..																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Punta Arenas, Costa Rica†	29 97‡	761 2‡	75	23.9	86	ESE			1		0			0	0	Small	ENE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..																			
S. S. City of Chester, E. Polemann, N. 43° 08′, W. 124° 57′ ....†	30.04‡	763 0‡	48	8.9		N			2		0					Mod'ate	NW	Clear	E. Polemann.
S. S. City of Panama, M. Connolly, N. 7° 10′, W. 81° 48′.....†	29.91‡	759.7‡	73	22.8		NNW			3		0					Smooth	N	Hazy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 31° 30′, W. 119° 18′†....	30.01‡	762.2‡	55	12.8	87	SW			3		8		SW	0.01	0.3	Heavy Long	WNW	Showery	
S. S. Dakota, D. E. Griffiths N. 43° 39′ W. 124° 33′..†..	30.05‡	763.3‡	45	7.2		N			3		6?		S			Heavy	NW	Clear?.....	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 26° 38′, W. 148° 54′.....	30 07‡	763.8‡				E			3				SE			Mod'ate	N	Clear.....	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 42° 26′, W. 51° 33′..†..	30.10‡	764.5‡	53	11.7		SSE	5	2.2			8		S	0	0	Mod'ate	S	Fine.....	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....																			J. W. Jennings.
S. S. Britanic, H. Perry,... ..																			J. Jones.
S. S. Celtic, B. Gleadell.....																			
S. S. Republic, P. J. Irving..																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....																			Mehaffey.
Schr. Adele Fuller, J. Jorgensen.....																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 39° 54′, E. 126° 30′.....*	30.22‡	767.6‡	66	18.9		E			2		10		E			Mod'at	SW	Cloudy.....	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
Iron Cross, W. Randall, N. 18° 02′, W. 28° 58′.....	30.13‡	765.3‡	69.8	21.0	70	N			4		4		NNE	0	0	Long	N	D. clouds....	W. Randall.
Barque Syringa, E. Lewis ...																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 23, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.00	762.1				N					6			0	0	Cloudy	
Nemours			30.11	764.8	69.3	20.7	57	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30.09	764.2	59.4	15.2	66	WNW			2		2			0	0	Fair	Tourillere.
La Calle			30.00	762.1	62.8	17.1	70	NW			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.06	763.5															Gau.
Saida			30.07	763.6															Herbin.
Tebessa			30.09	764.2	66.9	19.4	15	NNW			4		0			0	0	Clear	Watrin.
Geriville																			Brugniaux.
Laghouat			30.12	765.1	71.2	21.8	18	W			1		0			0	0	Clear	Bertrand.
Biskra			30.06	763.4	73.0	22.8	41	E			5		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.24	742.7	29.79	756.7	50.7	10.4	71	E			3		10			0.331	8.4	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.26	743.3	30.06	763.5	37.4	3.0	88	ENE	12.5	5.6			10			0.035	0.9		Dr. Wierzbicki.
Eperies	29.08	738.2	29.97	761.2	38.3	3.5	92	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.59	726.1	29.87	758.6	39.7	4.3	90	S			1		10			0	0		Andreas Rospini.
Hermannstadt	28.47	723.1	29.92	759.9	46.6	8.1	77	S			1		10			0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.39	721.1	29.77	756.1	30.9	2.7	94	ENE			3		10			0	0		The Staff.
Lemberg	28.97	735.9	30.00	762.0	34.0	1.1	90	S			1		10			Blank	Blank		Dr. T. Stanecki.
Pola	29.04	752.9	29.76	755.8	54.0	12.2	84	SE			2		10			0.020	0.5		I.R. Hydrographic Office.
Szathmar	29.51	749.6	29.99	761.7	42.1	5.6	79	E			2		10			0	0		Pet. Pancsics, S. J.
Szegedin	29.58	751.3	29.86	758.5	46.9	8.3	58	Calm			0		8			0	0		Karl Stancel.
Trieste	29.67	753.6	29.77	756.2	55.0	12.8	75	S			1		10			0.953	24.2	Raining	P. Busin.
Vienna	29.16	740.6	29.89	759.1	37.9	2.8	96	SE			1		2			0.043	1.1		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau,
Brussels	29.66	753.4	29.87	758.6	42.6	5.9	89	WNW			1		10		ENE	0.057	1.45	Light rain	Royal Observatory,
Furnes	29.87	758.8	29.90	759.4	45.5	7.5	87	N			2		10			0.043	1.1	Light rain	M. E. de Cae.
Maeseyck	29.76	755.9	29.89	759.1	47.7	8.7	77	ESE			2		10			0.354	9.0		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary: and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	43.7	6.5		S	9	4.0			9			0	0	Overcast	W. Boswell.
Ardrossan	30.10	764.5	30.11	764.8	43	6.1		Calm			0		7					Raining	G.Carrick.
Armagh, (Observatory)	29.92	760.0	30.16	766.1	45.4	7.4		NNW	4	1.8			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.10	764.5	42.8	6.0		WNW	9	4.0			2					Blue sky	John Hartnup.
Bolton (Sharples)	29.54	750.3	30.06	763.5	43.9	6.6		NNE	4	1.8			8					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.69	754.1	30.08	764.0	42.7	5.9	85	NE			3		10			0.02	0.5	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.97	761.2	77.5	25.3		NE			1		8					Raining	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.80	756.2	29.99	761.7	39.0	3.9		N			1		10					Raining	H. Todd.
Cardington			29.99	761.7	40.6	4.8		N			1		10					Raining	John McLaren.
Chatham (School M. E.)	29.82	757.4	29.95	760.7	40.1	4.4		NE			0		10k					Overcast	Lance Corp'l Hocker, R. E.
Donaghadee	30.12	765.0	30.16	766.1	45	7.2		SE			2		3					D. clouds	J. Mac Gowan.
Dover	29.88	758.9	29.91	759.7	42	5.6		NNE			4		10					Gloomy	J. Costello.
Falmouth (Observatory)	29.88	758.9	30.12	765.0	47.3	8.5		NNW			2		6					Overcast	The Staff.
Fort Napier, Natal	27.58	700.5	29.80	756.9	79.0	26.1		E			2		10					Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.68	753.9	29.90	759.4	85	29.4		N			0		3k						
Galway (Queen's College)			30.12	765.0	49	9.4		N			1		10					Overcast	M J. O'Donaghue.
Gibraltar, Mediterranean.§	30.06	763.5	30.12	765.0	63.4	17.4		N			2		1					Blue sky	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.91	759.7	30.11	764.8	46.9	8.3		SSW			2		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.97	761.2	29.98	761.5	39	3.9		ENE			4		10					Raining	G. T. Watson.
Greenwich (Royal Obs'y)	29.81	757.2	29.98	761.5	39.2	4.0		N					10					Raining	The Staff, for G.B.Airy.
Guernsey	29.80	756.9	30.04	763.0	43	6.1		NNE			3		5					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.21	767.3	30 33	770.4	50	10.0		N			2	2ck				0.05	1.3	Very fine	M. P. Moyle.
Holyhead	30.06	763.5	30.12	765.0	44	6.7		NNE			2		1					Blue sky	John Tilston.
Jersey	29.74	755.4	30.04	763.0	43.8	6.6		NNE			3		4					D. clouds	J. Fisher.
Kew (Observatory)	29.96	761.0	30.00	762.0	40.3	4.6		NNW	13	5.8			10					Raining	The Met'g'l Office.
Leicester (Museum)	29.78	756.4	30.04	763.0	40.5	4.7		NE			1		10					Misty	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.81	757.2	29.89	759.2	68.6	20.3		SW			2		0					Blue sky	A. King.
Nairn	30.00	762.0	30.09	764.3	45	7.2		SSW			1		5					½ clouded	W.D. Penny.
Nassau, Bahamas			30.03	762.7	69.5	20.8		NW					4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.88	758.9	30.08	764.0	40.8	4.9		N			3		10			0.060	1.52	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.53	750.0	30.06	763.5	42.1	5.6		NNE			2		10					Overcast	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.80	756.9	30.06	763.5	40	4.4		NW			2		10					Threatening	The Staff, for E. J. Stone, Esq.
Plymouth	30.00	762.0	30.07	763.8	48.4	9.1		N			2		2					Misty	John Merrifield.
*Roche's Point	30.09	764.3	30.17	766.3	47	8.3		N			4		2					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.94	760.5	30.10	764.5	47	8.3		N			1		2					Blue sky	John C. Walker.
Sandwick Manse, Orkneys			30.08	764.0	43.5	6.4		SSW	7	3.1			1					Blue sky	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.93	760.2	30.00	762.0	55.6	13.1		SW			1		4					D. clouds	Serg't W. H. Lyne.
Sheffield	29.81	757.2	30.10	764.5	44.1	6.7		N			1		10			Blank	Blank	Overcast	W. F. Cooper.
Silloth Rectory	30.09	764.3	30.12	765.0	46.4	8.0	78	Calm			0		0			0	0	Blue sky	Rev. F. Redford, A. M
Stonyhurst (Observatory)			30.10	764.5	44.0	6.7		NNE	5	2.2			10					Threatening	Rev. S. J. Perry.
Strathfield, Turgiss	29.81	757.2	30.04	763.0	38.8	3.8		N			2		10					Raining	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.07	763.8	30.12	765.0	51	10.6		N			4		4					D. clouds	W. Newcombe.
Valencia (Observatory)	30.18	766.6	30.20	767.1	49.0	9.4		W	8	3.6			4					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.06	763.5	30.10	764.5	74.6	23.7	52	SSW	26.4	11.8		0	2			0	0	Hazy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.62	650.7			84	28.9		E				5k	5k						Robert Burnet.
Constable, Cape Colony	26.82	681.2			70	21.1		SE											Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			30.32	770.1	63.0	17.2	68	S			2		10k			0	0	Covered	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.16	766.1	46.0	7.8		S			1		3k			0	0	Fine	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.95	760.6	81.0	27.2	66	SSE	21.5	9.6		3	4	NW	ESE	0.02	0.5	Squally	R. L. J. Ellery.
Melbourne (Observatory)	30.03	762.7	30.12	765.0	69.0	20.6	76	SE	12	5.4			0			0	0	Very fine	J. Youngclause.
Monach Lt-house, Hebrides			30.10	764.5	47	8.3		S			3	3	5	N		0	0		
North Unst, Shetland Is			30.07	763.8				SW			4	2	4	SW		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. §These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 21° 17′ W. 24° 58′	30.14‡	765.5‡				ENE			5							D. clouds	Capt. Thos. Young.
City of Cashmere, S. 0° 21′, W. 32° 14′	29.99‡	761.7‡	82.8	28.2		E			4	6				Long	NNW	Misty	Capt. W. M. Grieve.
Barque Dochra, S. 31° 51′, W. 34° 45′	30.17‡	766 3‡	75	23.9		NW			3	10						Drizzling	Capt. N. Spalding.
S. S. German, S. 22° 58′, E. 3° 36′	30.05‡	763.3‡	72	22.2		ESE			3	8						D. clouds	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 30° 30.′ E. 31° 18′	30.08	764.0‡	75.4	24.1		SSW			6	10						Drizzling	Capt. W. P. Hughes.
S. S. Strathleven																	Capt. W. Pearson.
S. S. Sunbeam																	Capt. C. M. Dobson.
S. S. Ethiopa																	Capt. A. Campbell.
S. S. Decapolis																	Capt. T. M. Almond.
Barque Dochra																	Capt. N. Spalding.
Barque Fedalma																	Capt. H. L. Fox.
H. M. S. Alert																	Capt. J.P Maclear, R.N.
Barque Commewyne																	Capt. Jas. Buchan.
S. S. Richmond																	Capt. W. H. Stuart.
Bute Fylde																	Capt. L. C. Dart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected.
‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	61.7	16.5	87	NE			5	2d	0	E		0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.15	765.9	30.20	767.1	29.8	— 1.2	84	ESE			2		10						
Faröe	30.15	765.7	30.17	766.2	35.2	1.8	88	ESE			4		10						
Godthaab (Greenland)	28.82	732.0	28.86	733.1	31.2	— 0.4	74	S			3		10						
Stykkisholm (Iceland)	29.85	758.2	29.89	759.3	34.5	1.4	93	SW			4		8						
Thorshavn (Faröe)	29.86	758.5	29.90	759.4	43.9	6.6	87	Calm			0		10						
Vestervig	30.08	763.9	30.19	766.7	34.7	1.5	91	SE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.43	747.6	29.98	761.5	43.7	6.5	70	NE			2	5		NE		0.008	0.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.6	29.94	760.4	43.5	6.4	91	SW			1	8		NE		0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.63	752.6	29.89	759.2	42.4	5.8	91	N			3	k		N		0.071	1.8		Klein, Commandant.
Avignon, Normal School	29.80	757.0	29.88	759.0	54.5	12.5	80	N			1–2	2		NNW		0.016	0.4	Partly cld'y	Giraud, Director.
Bar-sur-Seine	29.34	745.1	29.91	759.6	43.3	6.3	82	W			1	10				0.252	6.4	Covered	C. Saillard, Director.
Beauvais, Normal School	29.67	753.7	29.95	760.6	43.2	6.2	78	NNW			1	10		NNW		0.08	2.	Covered	Frère Eugene Marie.
Besançon, Normal School	29.01	736.8	29.91	759.6	45.5	7.5	75	S			1	8		SW		0.343	8.7	Very cloudy	A. Carré, Director.
Bordeaux	29.80	756.8	29.99	761.8	48.7	9.3	65	NNW			1	8				0.315	8.00	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.08	738.5	29.98	761.6	42.4	5.8	85	W			1	10n	W	W		0.43	11.	Raining	Marlot, Director.
Bourges, Normal School	29.39	746.5	29.95	760.7	43.2	6.2	88	SW			1	10kn		SW		0.59	15.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.85	758.2	30.10	764.4	47.5	8.6	81	N			3	8		N		0.128	3.25		Ch. de Remaree, Dir
Caen, Normal School	29.87	758.7	29.91	759.6	42.8	6.0	91	NW			1	5		NW		0.189	4.8	Cloudy	M. Bletrix, Director.
Carcassonne, N. School	29.55	750.5	29.97	761.1	48.6	9.2	63	WNW			4	10	WNW	WNW		0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.55	750.6	29.88	758.9	42.6	5.9	88	SW			1	10				0	0	Covered	Jadot, Director
Chartres, Normal School	29.87	745.9	29.95	760.6	41.0	5	94	NW			1	10				0	0	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.54	725.0	29.93	760.3	41.7	5.4	72	W			1	8				0	0		Allnard, Director.
Commercy, Normal School	29.01	736.8	29.89	759.2	41.0	5.0	87	W			1	10n	W	W		0.087	2.2	Covered	Dr. Coullet, Director.
Commune de Gréasque*	28.74	729.9	29.88	758.9	48.4	9.1	40	NW			4	5		NW		0.291	7.4		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.15	740.3	29.93	760.3	43.9	6.6	68	NW			2	n		S		0.965	24.5		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.79	756.7	30.01	762.3	50.4	10.2	74	WNW			1	8		NW		0	0	Very cloudy	Moullot, Director.
Le Mans, Normal School	29.65	753.1	29.96	761.0	45.7	7.6	69	NW			1	5		WNW		0.031	0.8	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.03	737.3	29.96	760.9	41.9	5.5	81	SSW			1	10n		SW		0.811	20.60	Covered	A. Baudry, Director
Lorient, Naval Observatory	29.95	760.6	30.06	763.4	44.6	7.0	97	NW			3	8	NW	N		0.059	1.5	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.30	744.1	29.93	760.1	45.7	7.6	57	N			1	kn		N		0.059	1.5		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.52	749.8	29.79	756.7	52.5	11.4	60	NW			4–6	8		NW		0.031	0.8		E. Stephan, Director.
Mirecourt, Normal School	28.74	730.0	29.80	756.9	44.6	7	64	SW			1	10				0	0	Covered	Barbier, Director.
Mont-Louis	24.64	625.8	29.95	760.8	37.0	2.8	89	W			3	4		N		0.016	0.4		M. Cave, for Dr. Fines.
Nice	29.63	752.7	29.97	753.5	56.5	13.9	71	E			4	1	W	W		0.047	1.2	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.74	755.3	29.94	760.5	51.8	11	63	NW			3	5		N		0	0	Cloudy	M. Boyer, Director.
Perpignan	29.84	758.0	29.95	760.7	52.0	11.1	52	NW	9.4	4.2		4	NW	NW		0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.34	567.5			25.2	— 3.8						10		NNW		1.963	49.6	Snowing	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	28.84	732.4	29.92	759.9	45.9	7.7	64	N			4	10	N	N		0	0	Covered	M. Tallieu
Puy de Dome (Summit) Obs	24.92	632.9			25.3	— 3.7	100	WNW			6	Fog				0.268	6.8	Snowing	Allnard, Director.
Rochefort, Naval Obs'y	30.00	762.0	30.03	762.8	50.9	10.5	82	W			1	10	W	W		0	0	Covered	Lt. E. Decante, Director
Rouen, Normal School	29.85	758.3	29.94	760.5	43.2	6.2	82	NNW			2	5		N		0.020	0.5	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.97	761.2	30.00	762.0	44.6	7.0	83	NNE			2	10	NE	NE		0.174	4.42	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	29.76	756.0	29.93	760.2	43.2	6.2	83	NNW			1	10		N		0.020	0.5	Covered	E. Renou, Director.
Tarbes, Normal School	28.90	735.5	30.10	764.4	42.8	6	100	W			1					0.000	0.005		T. Huguet, Director
Toulouse, Observatory	29.33	745.0	30.06	763.4	46.0	7.8	86	W			3	10				0.098	2.5	Covered	B. Baillaud, Dir.
Tours	29.75	755.6	29.95	760.6	45.3	7.4	73	WNW			1	10		WNW		0	0	Covered	M. de Tastes.
Versailles, Observatory	29.43	747.6	29.93	760.1	42.8	6.0	82	NNW			1	9				0	0	Almost cov'd	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.24	742.8	29.97	761.1	51.1	10.6	93	SW			2	8		W		0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	762.9	30.07	763.6	77.0	25.0										0	0		L'Abbé Marchési
Paris, Montsouris Obs'y	29.04	752.0			42.8	6.0	86	NW			1	10		NNW		0	0		Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.54	775.7	30.56	776.3	32.2	0.1	80	NE	3.8	1.7		4cs		W		0	0	Cloudy	Marc Dechevrens, J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second. The rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds: Amount. Up'er 0–10.	Clouds: Amount. Lo'er 0–10.	Clouds: Direction. Upper. From—	Clouds: Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.98	736.1	29.84	757.9	43.5	6.4	73	NE			6		9ks	NE		0	0		Prof. Dr. Hoh.
Berlin	29.90	759.4	30.08	764.0	37.4	3.0	76	E			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.54	750.2	30.07	763.7	35.6	2.0	89	ENE			1		10			0	0		Royal University Obs'y
Carlsruhe	29.38	746.3	29.82	757.3	42.4	5.8	94	S			2		10	S		0.701	17.8	Raining	Albert Senz.
Cassel	29.32	744.7	29.92	760 0	39.2	4.0	83	E			1		10	NE		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.56	750.7	29.93	760.1	44.6	7.0	72	N			2		10			0.008	0.2	Raining	Physical Society.
Friedrichshafen	28.37	720.7	29.85	758.1	38.1	3.4	87	SW			4		10	SW		0.339	8.6	Snowing	Chief Telegrapher Wilhelm.
Hamburg	30.04	763.0	30.11	764.8	36.7	2.6	85	ENE			3		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.17	766.4	30.19	766.8	35.2	1.8	78	E			4		10			0.003	0.08		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.12	765 0	30.21	767.2	25.2	— 3.8	86	NE			4		10			0	0		Prof. E. Luther.
Köslin			30.16	766.1	32.0	0.0		NE			2		4			0	0		H. Müller.
Leipsic Observatory	29.57	751.0	30.00	762.0	38.8	3.8	78	E			4		9	ENE		0.012	0.3	Stormy.	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.83	757.6	30.06	763.4	40.5	4.7	71	E			4		10ks	E		0	0		Dr. Assmann.
Memel	30.15	765.8	30.20	767.0	28.2	— 2.1	81	NNE			2–3		1s						Reinbrecht & Issermann
Munich (München)	27.95	709.9	29.82	757.6	36.9	2.7	93	E			2		10			0.315	8.0	Raining	Dr. C. Lang.
Neufahrwasser	30.19	766.8	30.21	767.2	31.8	— 0.1	89	NE			2		10			0.016	0.4		A. Lothes.
Neustadt (Palatinate)	29.28	743.8	29.81	757.1	42.3	6.3	87	SW			1		10			0.431	10.95	Raining	Reallehrer Dicknether
Posen	29.84	757.9	30.14	765.6	31.1	— 0.5	88	NE			4		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.30	744.3	29.87	758.6	41.7	5.4	100	NNW			2		10	WNW		0.540	13.73	Raining	Imp. University Observatory.
Stuttgart	28.85	732.7	29.76	755.9	41 5	5.3	87	N			1		10			0.461	11.7	Raining	Prof. Dr. Schoder.
Thorn	30.05	763.2	30.24	768.0	28.6	— 1.9	78	NE			3		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.30	718.9	29.87	758.8	41.2	5.1	86	NE	1.1	0.5			10		NE	0.164	3.9	Raining	Reallehrer J. Hopfner
Wustrow	30.15	765.8	30.17	766.4	33.1	0.6	100	E			2		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.8	30.07	763.8	59 0	15.0		SW			4.0		5					½ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.3	29.95	760.7	76.1	24.5	60	SSW	9	4.0			0			0	0	Blue sky	
Deesa	29.51	749.5	29.95	760.8	84.3	29.1	23	SSW	9.2	4.1			0			0	0	Blue sky	
Bombay	29.95	760.6	29.98	761.6	71.5	21.9	89	WNW	8	3.6			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.3	29.93	760.3	81.9	27.7	22	W	17	7.6			0			0	0	Blue sky	
Belgaum	27.40	696.1	29.94	760.4	78.2	25.7	35	WSW	8	3.6			2	NE	NE	0	0	D. clouds	
Lahore	29.24	742.8	30.01	762.3	65.6	18.7	59	Calm	0.5	0.2			8			0	0		
Roorkee	29.08	738.8	30.02	762.5	63.8	17.7	68	SW	0.9	0.4			9			0	0		
Agra	29.36	745.7	29.94	760.3	71.7	22.1	38	Calm	2.2	1.0						0	0		
Nagpur	28.89	733.8	29.93	760.3	82.2	27.9	53	E	3.6	1.6			7		W	0	0	D clouds	
Jubbulpore	28.61	726.7	29.99	761.8	75.8	24.3	29	Calm	1.2	0.5			0			0	0	Blue sky	
Lucknow	29.62	752.5	30.02	762.5	61.5	16.4	58	NW	0.6	0.3			0			0	0	Blue sky	
Allahabad	29.72	755.0	30.05	763.2	66.4	19.1	48	Calm	1.2	0.5			0			0	0	Blue sky	
Patna	29.87	758.7	30.06	763.4	69.1	20.6	41	W	0.7	0.3			0			0	0	Blue sky	
Hazaribagh	27.97	710.5	30.05	763.2	64.3	17.9	47	NW	3.4	1.5			0			0	0	Blue sky	
Cuttack	29.90	759.5	29.99	761.6	78.2	25.7	72	SW	1.1	0.5			4			0	0	D. clouds	
Calcutta (Alipore)	30.00	761.9	30.02	762.5	74.5	23.6	60	NNW	8.0	1.3			6		W	0	0	D. clouds	
Goalpara	29.63	752.6	30.03	762.8	68.1	20.1	48	WNW	1.0	0.4			0			0	0	Blue sky	
Chittagong	29.95	760.7	30.01	763.0	70.8	21.6	53	Calm	3.5	1.6			0			0	0		
Sibsagar	29.70	754.3	30.05	763.2	63.3	17.4	75	SW	2.1	0.9			0			0.01	0.3	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	Lower. 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.86	745.7	29.78	756.3	50.7	10.4	91	E	1.3	0.6	.....	.....	10	.....	.....	0.843	21.4	.....	Prof. Giovanni Clodig.
Milan	29.17	740.9	29.70	754.4	43.3	6.3	91	E	1.3	0.6	.....	.....	10	SSW	.....	0.831	21.1	.....	Prof. Schiaparelli.
Padua	29.61	752.2	29.73	755.1	48.7	9.3	93	ESE	9.8	4.4	.....	.....	10	E	.....	0.098	2.5	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.80	731.5	29.73	755.2	45.5	7.5	83	ENE	4.5	1.9	.....	.....	9	.....	.....	0.039	1.0	.....	Prof. P. F. Denza.
Genoa	29.50	749.3	29.70	754 3	50.7	10.4	70	NE	6.3	2.8	.....	.....	6	NE	.....	0.567	14.4	.....	Prof. G. M. Garibaldi.
Mondovi	27.78	705.6	29.73	755.2	44.6	7.0	82	Calm	0	0	.....	.....	9	.....	.....	0.059	1.5	.....	Prof. D. C. Bruno.
Pesaro	29.69	754.1	29.74	755.4	46.8	8.2	81	S	6.9	3.1	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.52	749.8	29.78	756.4	44.6	7.0	91	NE	.....	.....	2	.....	10	SW	.....	0.622	15.8	.....	Cav. F. Meucci.
Leghorn	29.66	753.4	29.75	755.6	55.0	12.8	70	W	7.4	3.3	.....	.....	7	.....	.....	0.984	25.0	.....	Prof. P. Monte.
Rome	29.64	752.8	29.82	757.4	55.2	12.9	80	W	23.7	10.6	.....	.....	10	.....	.....	0.386	9.8	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.6	29.93	760.2	59.2	15.1	69	SE	28.6	12.8	.....	.....	9	SE	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.03	737.4	29.93	760.2	66.2	19.0	77	SE	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.66	753.4	29.80	756.5	64.1	12.3	76	NW	.....	.....	2	.....	3	W	.....	0.110	2.8	.....	Prof. A. Pacinotti.
Palermo	29.59	751.5	29.84	758.0	71.4	21.9	24	WSW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.85	758.3	29.90	759.4	60.6	15.9	80	SSW	4.9	2.2	.....	.....	3	W	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.30	744.2	29.83	757.6	58.5	14.7	60	NW	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. F. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	772.1	30.41	772.4	34.9	1.6	71	ESE	3.9	1.8	.....	5ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.17	766.3	30.38	771.6	37.9	3.3	88	NE	3.2	1.4	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.22	767.6	30.29	769.3	33.8	1.0	59	NNE	4.9	2.2	.....	.....	6ck	.....	W	0	0	Cloudy	The Staff.
Wakayama	30.32	770.1	30.38	771.6	34.7	1.5	73	NNE	3.8	1.7	.....	3ck	.....	W	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.8	30.19	766.9	48.2	9.0	50	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.46	621.3	30.18	766.5	57.2	14.0	70	N	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mazatlan	29.75	755.6	30.01	762.3	68.3	14.6	98	E	.....	.....	3	0	0	.....	.....	0	0	Hazy	F. Quijano, C. E.
Mexico, Central Observatory	28.10	586.7	30.26	768.5	45.0	7.2	41	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.10	612.2	.....	.....	61.5	16.3	27	SE	.....	.....	2	1c	0	S	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.99	609.3	30.10	764.4	49.5	9.7	49	S	.....	.....	1	0	0	.....	.....	0	0	Fine	M. Y. de Leon, M. E.
Puebla (Catholic Institute)	23.41	594.5	30.38	771.6	40.1	4.5	51	SE	0.2	0.1	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.22	615.1	30.32	770.2	48.4	9.1	56	SE	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	30.02	762.6	30.04	762.9	69.8	21.0	90	E	.....	.....	1	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.03	762.8	30.06	763.5	69.8	21.0	91	Calm	0	0	.....	.....	8sk	.....	S	0	0	Clear	Prof. J. Rossell
Zacatecas	22.61	574.2	30.28	769.1	55.0	12.8	50	Calm	.....	.....	0	0	0	.....	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.90	759.4	29.90	759.4	45.0	7.2	.....	NE	.....	.....	2	.....	.....	.....	.....	0.118	3.0	.....	
Groningen	29.98	761.6	30.04	763.0	39.2	4.0	.....	E	.....	.....	2	.....	.....	.....	.....	9.020	0.5	.....	
Helder	29.98	761.6	29.98	761 6	38.5	3.6	.....	ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.89	759.3	29.89	759.3	44.1	6.7	93	ENE	.....	.....	2	.....	.....	.....	.....	0.354	9.0	.....	
Utrecht	29.91	759.6	29.93	760.8	42.3	5.7	85	ENE	.....	.....	4	.....	8	.....	.....	0.067	1.7	Very cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	30.10	764.4	30.15	765.8	37.8	3.2	99	SE	8.3	3.7	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.85	758.3	29.89	759.3	36.3	2.4	89	SW	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiana	30.01	762.3	30.17	766.3	27.3	— 2.6	74	NNE	0	0	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.34	745.1	29.38	746.2	38.1	3.4	68	SW	36	16	.....	.....	9	.....	.....	0.433	11.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.18	766.5	30.39	771.9	54.7	12.6	86	ENE	.....	.....	3	.....	8	.....	.....	0.276	7.0	.....	Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.21	767.3	48.7	10.6	93	N	9.8	4.4	.....	.....	7	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.80	757.0	29.89	759.2	68.7	20.4	51	E	23.0	10.3	.....	.....	4	.....	.....	0.016	0.4	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.92	759.9	30.29	769.3	54.1	12.3	51	NNE	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.24	768.2	30.32	770.0	57.2	14.0	74	ENE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Q. anza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.94	760.5	79.5	26.4	.....	W	.....	.....	2	.....	4	.....	W	2	W	D. clouds	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.14	765.5	75.2	24.0	.....	ENE	.....	.....	2	.....	7	.....	.....	2	NE	D. clouds	A.de SouzaRoza, 2ndL't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. N. 0° 27′, E. 6° 45′	.....	.....	29.93	760.3	84.6	29.2	.....	SSE	.....	.....	2	.....	3	.....	S	2	S	D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.28	769.1	55.4	13.0	.....	NNE	.....	.....	3	.....	10	.....	NNE	1	.....	Rain & fog	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.78	756.4	29.80	756.9	14.7	— 9.6	91	W	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.29	767.1	30.12	765.0	25.7	— 3.5	80	SE	4	2	.....	.....	10n	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Barnaul	29.78	756.5	30.35	770.9	— 5.4	—20.8	81	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.93	760.1	30.19	766.7	22.8	— 5.1	71	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.03	737.3	30.08	763.9	10.2	—12.9	65	WSW	13	6	.....	.....	7	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.56	750.8	29.85	758.2	12.0	—11.1	93	S	18	8	.....	.....	10	.....	.....	.....	.....	Snow-drift.	Physical Cabinet.
Kertch	29.99	761.8	30.01	762.3	38.3	3.5	93	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.17	741.0	29.84	757.8	30.9	— 0.6	94	NNW	13	6	.....	.....	10ks.n	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Krotkowo*	29.47	748.5	29.98	761.6	9.9	—12.3	76	S	20	9	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjano w.
Lugan	29.56	750.8	29.78	756.3	25.2	— 3.8	82	SW	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Moscow	29.20	741.7	29.79	756.7	13.8	—10.1	67	N	13	6	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.18	715.7	30.86	783.8	—17.0	—27.2	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.91	759.6	29.98	761.4	37.9	3.3	85	SSW	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.88	758.9	30.13	765.3	25.2	— 3.8	78	NNE	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Kurdakof.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.06	763.4	30.07	763.8	21.2	— 6.0	82	WNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.35	720.1	30.03	762.7	23.4	— 4.8	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.62	726.9	30.08	764.1	39.9	4.4	44	NW	18	8	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.68	753.9	30.12	765.1	30.9	— 0.6	88	NE	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomic al Obs.
Wilna	29.72	754.9	30.17	766.3	24.1	— 4.4	82	NNW	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Astronomic al Obs.
Yeniseisk	29.98	761.4	30.30	769.6	— 1.1	—18.4	62	NW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.84	758.0	29.95	760.8	58.1	14.5	89	WNW	4.5	2.00	.....	.....	1	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.12	765.0	30.18	766.5	54.9	12.7	68	NW	5.4	2.39	.....	.....	10	.....	.....	0.488	12.4	Hailing	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.7	.....	.....	45.5	7.5	59	W	16.7	7.47	.....	0	7	.....	.....	0.039	1.0	Cloudy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.92	709.1	30.19	766.7	50.5	10.3	45	NW	16.4	7.33	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.98	761.4	30.13	765.2	63.3	17.4	39	NW	5.4	2.42	.....	0	0	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.36	745.7	30.28	769.0	49.6	9.8	81	NW	10.5	4.7	.....	.....	8	.....	.....	0.071	1.8	Rainy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.00	762.1	30.07	763.8	72.0	22.2	67	NNW	3.1	1.4	.....	0	2k	.....	NW	0.098	2.5	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.99	761.8	30.04	763.1	81.7	26.9	76	S	.....	.....	.....	4ck	9kn	E	W	0.19	0.5	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764.4	30.19	766.9	58.3	14.6	55	N	6.3	2.8	.....	0	2	.....	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.91	759.8	30.00	762.1	71.6	22.0	92	SW	0	0	.....	1s	0	E	.....	0.010	0.25	Clear.	EnriqueGadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.85	758.2	29.89	759.2	12.2	—11.0	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.96	760.9	30.01	762.2	25.2	— 3.8	87	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.98	761.6	30.04	762.9	35.2	1.8	86	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	30.00	762.1	30.18	766.6	30.6	— 0.8	77	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	30.10	764.4	30.15	765.9	30.9	— 0.6	85	W	.....	.....	2	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.05	763.3	30.14	765.5	30.7	— 0.7	83	SSW	6.0	2.7	.....	.....	0	.....	.....	0.005	0.13	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	722.0	29.87	758.8	46.0	7.8	82	W	.....	.....	2	.....	10	.....	.....	0.197	5.0	Covered	The Observatory.
Zurich	28.21	716.4	29.90	759.5	37.0	2.8	97	SE	.....	.....	1	.....	10	.....	.....	1.035	26.3	Rain & snow	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —3.9 mm.; Thermometer, +3.1 Cent. Relative Humidity, —16 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.05	763.3	57.0	13.9	45	SW	4	2.0	.....	.....	6	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.93	760.1	64.9	18.3	.....	S	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.17	766.3	60.3	15.7	57	NE	.....	.....	1	2c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.83	757.7	29.85	758.2	4	—15.6	.....	SW	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	29.78	756.4	29.85	758.2	2.7	- 16.3	86	Calm	0	0	.....	1k	8ks	W	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.81	757.2	29.86	758.4	21.2	— 6.0	88	E	3	1.3	.....	.....	9s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.27	743.4	29.46	748.3	26.0	— 3.3	88	E	.....	.....	1	.....	10n	.....	.....	0.100	2.54	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.69	754.1	29.88	758.9	2.5	—16.4	.....	S	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	18.5	— 7.5	84	SE	15	6.7	.....	.....	10s	.....	.....	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.78	756.4	29.85	758.2	7.0	—13.9	81	NW	1	0.4	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
Fort Garry, Manitoba	28.96	735.6	29.8	756.9	2.4	- 16.4	95	E	12	5.4	.....	.....	10ks	.....	.....	6	0	Cloudy	James Stewart.
Granton, Ontario	28.66	728.0	29.81	757.2	27.0	— 2.8	100	NW	.....	.....	2	6cs	0	NW	.....	Inap.	Inap.	Fair	James Grant.
Halifax, N. S	29.72	754.9	29.85	758.2	21.0	— 6.1	86	S	3	1.3	.....	0	6ks	.....	.....	0	0	Fair	A. Allison.
Hamilton, Ontario	29.39	746.5	29.78	756.4	30.1	— 1.1	78	SW	.....	.....	1	5ks	0	SW	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.21	741.9	29.56	750.8	29.6	— 1.3	81	NW	6	2.7	.....	7cs	0	NW	.....	0.02	0.5	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.78	756.4	29.82	757.4	24.7	— 4.1	82	NE	10	4.5	.....	7ck	0	NE	.....	0.17	4.3	Cloudy	C. H. Rigby.
Montreal, Quebec	29.26	743.2	29.47	748.5	22.0	— 5.6	87	W	4	1.8	.....	.....	10n	.....	.....	0.37	9.4	Light snow	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nelson.
Norwood, Ontario	28.86	733.0	29.58	751.3	24.8	— 4.0	90	NW	6	2.7	.....	5c	0	W	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.98	736.1	29.71	754.6	22.2	— 5.4	79	NW	14	6.3	.....	2ck	1s	NW	.....	0.07	1.8	Fair	Rev. R. Mosley.
Peterboro, Ontario	28.87	733.3	29.66	753.4	26.3	— 3.2	80	W	.....	.....	2	0	8ks	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.66	738.1	29.78	756.4	30.0	— 1.1	67	NW	13	5.8	.....	5k	0	SW	.....	0	0	Fair	H. Morgan.
Port Stanley, Ontario	29.15	740.4	29.82	757.4	30.2	— 1.0	76	W	24	10.7	.....	5k	1s	NW	.....	Inap.	Inap.	Fair	M. Payne.
Quebec, Quebec	29.26	743.2	29.60	751.8	21.0	— 6.1	100	NE	.....	.....	5	.....	10n	.....	.....	0.05	1.3	Heavy snow	Capt. Ashe, R. N.
Rockliffe, Ontario	29.09	738.9	29.57	751.1	22.1	— 5.5	75	W	4	1.8	.....	.....	6cs	.....	.....	0.10	2.5	Fair	W. H. McIntyre.
St. John, N. B	29.64	752.8	29.82	757.4	18	—10.6	100	N	3	1.3	.....	.....	10s	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.03	737.3	29.77	756.1	27.0	— 2.8	89	NW	40	17.9	.....	.....	9n	.....	.....	0.08	2.0	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.47	723.1	29.81	757.2	24.8	— 4.0	88	NW	20	8.9	.....	2cs	2ks	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
Sydney, C. B	29.83	757.7	29.87	758.7	22.7	— 5.2	70	NE	5	2.2	.....	9cs	0	S	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.33	745.0	29.72	754.9	29.7	— 1.3	81	NW	22	9.8	.....	.....	10n	.....	.....	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	29.73	755.1	29.82	757.4	17.5	— 8.1	100	SW	2	0.9	.....	.....	10n	.....	.....	0	0	Threatening	Prof. John E. Oram, M.A
Woodstock, Ontario	28.69	728.7	29.80	756.9	26.5	— 3.1	79	W	28	12.5	.....	2k	0	W	.....	0	0	Fine	Professor Wolverton.
Yarmouth, N. S	29.72	754.9	29.79	756.7	27.5	— 2.5	87	SE	4	1.8	.....	6k	0	SW	.....	0	0	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.81	757.2	30.07	763.8	29	— 1.7	100	E	.....	.....	.....	.....	Fog	.....	.....	.....	.....	Snowing	John Delany.
St. Pierre, N. F., l'Hopital Maritime.	.....	.....	29.72	754.9	23.0	— 5.0	.....	N	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.33	745.0	29.56	750.8	34	1.1	90	S	3	1.3	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Alpena, Michigan	29.24	742.7	29.92	760.0	22	— 5.6	86	NW	20	8.9	.....	0	5s	.....	NW	0.05	1.3	Fair...	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	29.78	731.0	29.92	760.0	51	10.6	65	NW	12	5.4	.....	8c	0	NW	.....	0	0	Fair...	
Atlantic City, New Jersey	29.63	752.6	29.64	752.8	43	6.1	67	W	11	4.9	.....	10k	0	W	.....	0.07	1.8	Cloudy.....	
Augusta, Georgia	29.74	755.4	29.95	760.7	48	8.9	78	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair...	
Baltimore, Maryland	29.66	753.4	29.70	754.4	44	6.7	68	NW	3	1.3	.....	5k	0	NW	.....	0	0	Fair...	
Barnegat, New Jersey	29.59	751.6	29.61	752.1	42	5.6	74	W	17	7.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Bismarck, Dakota	27.90	708.6	29.75	755.6	32	0.0	89	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.62	726.9	29.92	760.0	60	15.6	100	SW	3	1.3	.....	.....	Fog	.....	SW	0	0	Dense fog....	
Boise City, Idaho	27.18	690.4	30.14	765.5	30	— 1.1	89	N	1	0.4	.....	.....	10s	.....	Calm	0.92	23.4	Cloudy.....	
Boston, Massachusetts	29.45	748.0	29.60	751.8	34	1.1	79	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brackettville, Texas	28.88	733.5	29.92	760.0	61	16.1	100	E	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain..	
Breckenridge, Minnesota	28.84	732.5	29.88	758.9	25	— 3.9	100	S	17	7.6	.....	0	0	.....	.....	0	0	Clear.	
Brownsville, Texas	29.98	761.5	30.03	762.7	71	21.7	90	S	4	1 8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Buffalo, New York	28.99	736.3	29.70	754.4	30	— 1.1	68	W	15	6.7	.....	.....	10s	.....	W	0.01	0.3	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.19	741.4	29.48	748.8	34	1.1	79	SW	9	4.0	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Cairo, Illinois	29.74	755.4	30.15	765.8	46	7.8	69	N	16	7.2	.....	5c	2s	NW	Calm	0	0	Fair...	
Campo, California	27.43	696.7	30.00	762.0	41	5.0	91	SW	2	0.9	.....	.....	10s	.....	W	0.12	3.0	Cloudy.....	
Cape Hatteras, N. Carolina	29.81	757.2	29.82	757.4	55	12.8	68	W	22	9.8	.....	8cs	0	NW	.....	0	0	Cloudy.....	
Cape Henry, Virginia	29.68	753.9	29.70	754.4	49	9.4	64	SW	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cape Lookout, N. Carolina	29.82	757.4	29.84	757.9	56	13.3	75	SW	19	8.5	.....	5c	5s	W	W	0	0	Cloudy.....	
Cape May, New Jersey	29.62	752.3	29.65	753.1	46	7.8	68	W	20	8.9	.....	0	5ks	.....	NW	0	0	Fair	
Castroville, Texas	29.26	743.2	29.96	761.0	63	17.2	94	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cedar Keys, Florida	30.04	763.0	30.06	763.5	61	16.1	82	NW	9	4.0	.....	0	2s	.....	N	0	0	Fair.....	
Charleston, South Carolina	29.86	758.4	29.92	760.0	53	11.7	80	SW	4	1.8	.....	0	8ks	.....	SW	0	0	Cloudy.....	
Charlotte, North Carolina	29.97	756.8	29.78	756.4	45	7.2	68	SW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear.	
Chattanooga, Tennessee	29.18	741.1	29.99	761.7	52	11.1	66	NW	7	3.1	.....	2k	Sm'e	NW	Calm	Inap.	Inap.	Fair...	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	28	— 2.2	66	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Chicago, Illinois	29.35	745.5	30.07	763.8	33	0.6	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.33	745.0	29.99	761.7	43	6.1	59	NW	5	2.2	.....	0	Sm'e	.....	Calm	0.02	0.5	Clear.	
Cleveland, Ohio	29.13	739.9	29.88	758.9	33	0.6	70	NW	13	5.8	.....	0	8ks	.....	NW	0	0	Cloudy.....	
Coleman City, Texas	28.26	717.8	29.94	760.5	52	11.1	66	N	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair...	
Columbus, Ohio	29.04	737.6	29.90	759.4	35	1.7	80	N	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear.	
Concho, Texas	28.12	714.2	29.79	756.7	50	10.0	79	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.58	751.3	30.05	763.3	62	16.7	88	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.46	748.3	30.12	765.0	34	1.1	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Dayton, Washington T'y	.....	.....	.....	.....	22	— 5.6	100	N	.....	.....	1	.....	Fog	.....	Calm	0	0	Foggy.....	
Deadwood, Dakota	25.14	638.5	.....	.....	42	5.6	27	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	28.88	733.5	30.06	763.5	59	15.0	70	SE	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Delaware Breakwater, Del.	29.63	752.6	29.65	753.1	44	6.7	68	W	20	8.9	.....	2k	5s	NW	NW	0	0	Cloudy.....	
Denison, Texas	29.28	743.7	30.07	763.8	52	11.1	93	NE	5	2.2	.....	0	2s	.....	Calm	0	0	Fair...	
Denver, Colorado	24.73	628.1	29.95	760.7	35	1.7	61	SE	3	1.3	.....	2ck	5c	Calm	Calm	0	0	Fair...	
Des Moines, Iowa	29.22	742.2	30.14	765.5	28	— 2.2	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.19	741.4	29.88	758.9	31	— 0.6	79	NW	7	3.1	.....	5k	0	NW	.....	0.02	0.5	Fair...	
Dodge City, Kansas	27.48	698.0	29.84	757.9	36	2.2	45	NE	10	4.5	.....	0	8s	.....	Calm	0	0	Cloudy.....	
Dubuque, Iowa	29.40	746.7	30.13	765.3	29	— 1.7	68	W	4	1.8	.....	2c	Haze	W	Calm	0	0	Hazy.....	
Duluth, Minnesota	29.31	744.5	30.03	762.7	20	— 6.7	70	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Eagle Pass, Texas	29.26	743.2	29.98	761.5	62	16.7	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Eastport, Maine	29.68	753.9	29.75	755.6	31	— 0.6	79	E	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	95	Calm	.....	.....	0	5k	2s	S	Calm	0	0	Fair..	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.04	737.6	29.76	755.9	33	0.6	61	NW	19	8.5	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Escanaba, Michigan	29.39	746.5	30.09	764.3	17	— 8.3	51	NW	10	4.5	.....	5k	0	NW	.....	0	0	Fair.....	
Florence, Arizona	28.53	724.6	30.13	765.3	49	9.4	85	Calm	0	0	.....	.....	10s	.....	SW	0	0	Threatening	
Fort Apache, New Mexico	25.09	637.3	30.54	775.7	44	6.7	84	SE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.62	701.5	29.48	748.8	28	— 2.2	88	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Custer, Montana	26.64	676.6	.....	.....	28	— 2.2	67	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.26	641.6	30.22	767.6	45	7.2	61	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Fort Gibson, Indian Ter	29.58	751.3	30.14	765.5	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Grant, Arizona	25.30	642.6	30.10	764.5	46	7.8	70	NE	3	1.3	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
Fort Griffin, Texas	28.76	730.5	30.04	763.0	53	11.7	73	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
Fort Keogh, Montana	27.06	687.3	.....	.....	21	— 6.1	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort McKavett, Texas	27.78	705.6	29.72	754.9	49	9.4	93	N	5	2.2	.....	1c	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.96	761.0	51	10.6	40	N	8	3.6	.....	0	5s	.....	Calm	0	0	Fair.....	
Fort Stevenson, Dakota	27.84	707.1	.....	.....	28	— 2.2	77	SW	2	0.9	.....	2c	0	W	.....	0	0	Fair...	
Fort Verde, Arizona	.....	.....	.....	.....	35	1.7	90	W	.....	.....	1	.....	10s	.....	W	0	0	Cloudy.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.78	756.4	54	12.2	80	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Foggy.....	
Galveston, Texas	30.04	763.0	30.08	764.0	65	18.3	100	SW	6	2.7	.....	.....	Fog	.....	SW	0	0	Foggy	
Grand Haven, Michigan	29.33	745.0	30.01	762.2	30	— 1.1	78	NW	14	6.3	.....	2k	0	W	.....	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	29.09	738.9	30.04	763.0	50	10.0	79	NE	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy.....	
Indianapolis, Indiana	29.23	742.4	30.03	762.7	35	1.7	70	NW	8	3.6	.....	0	0	.....	.....	0.10	2.5	Clear.	
Indianola, Texas	30.06	763.5	30.08	764.0	65	18.3	94	S	3	1.3	.....	5c	2s	Calm	S	0	0	Fair.....	
Jacksboro, Texas	28.86	733.0	29.98	761.5	60	15.6	71	SE	14	6.3	.....	5k	0	SE	.....	0	0	Fair.....	
Jacksonville, Florida	30.02	762.5	30.05	763.5	53	11.7	80	SW	4	1.8	.....	2cs	0	W	.....	0	0	Fair.....	
Keokuk, Iowa	29.44	747.8	30.08	764.0	35	1.7	70	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.04	763.0	30.08	764.0	69	20.6	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Kittyhawk, North Carolina	29.75	755.6	29.78	756.4	48	8.9	70	S	20	8.9	.....	10cs	0	S	.....	0	0	Cloudy.....	
Knoxville, Tennessee	28.96	735.6	29.97	761.2	47	8.3	62	W	5	2.2	.....	0	8ks	.....	NW	0	0	Fair.....	
La Crosse, Wisconsin	29.32	744.7	30.09	764.3	30	— 1.1	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	41	5.0	82	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair.....	
Laredo, Texas	29.59	751.6	29.93	760.2	65	18.3	84	SE	2	0.9	.....	2c	0	SW	.....	0	0	Clear.	
Leavenworth, Kansas	29.28	743.7	30.16	766.1	36	2.2	71	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair.....	
Lewiston, Idaho	.....	.....	.....	.....	28	— 2.2	88	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair.....	
Little Rock, Arkansas	29.78	756.4	30.15	765.8	51	10.6	86	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.79	756.7	30.14	765.5	41.0	5.0	82	NE	7	...	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy.....	
Louisville, Kentucky	29.43	747.6	29.99	761.7	43	6.1	59	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Lynchburg, Virginia	29.04	737.6	29.71	754.6	52	11.1	47	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Madison, Wisconsin	29.03	737.3	30.06	763.5	29	— 1.7	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.34	745.2	30.09	764.3	16	— 8.9	83	N	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Mason, Texas	28.40	721.3	30.15	765.8	58	14.4	88	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.78	756.4	30.12	765.0	59	15.0	86	NW	8	3.6	.....	8cs	0	Calm	.....	0	0	Fair.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	29.80	744.2	30.06	763.5	29	— 1.7	78	NW	9	4.0	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.04	763.0	30.09	764.3	61	16.1	94	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	29.82	757.4	30.06	763.5	52	11.1	93	W	3	1.3	.....	5c	0	NW	.....	0	0	Fair	
Morgantown, West Virginia	28.84	732.5	29.83	757.7	44	6.7	60	NW	8	3.6	.....	8ck	0	NW	.....	0	0	Cloudy	
Mt. Washington, N. H.	23.16	588.2	29.52	749.8	10	—12.2	100	SW	42	18.8	.....	.....	10n	.....	SW	0.13	3.3	Light snow.	
Nashville, Tennessee	29.51	749.5	30.05	763.3	47	8.3	70	Calm	0	0	.....	5cs	0	NW	.....	0	0	Fair	
New Haven, Connecticut	29.45	748.0	29.57	751.1	42	5.6	100	S	3	1.3	.....	.....	10n	.....	S	0.16	4.1	Light rain	
New London, Connecticut	29.51	749.5	29.56	750.8	41	5.0	91	SSW	12	5.4	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	64	17.8	83	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Newport, Rhode Island	29.54	750.3	29.58	751.3	42.5	5.8	79	SE	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
New York, New York	29.42	747.3	29.60	751.8	39	3.9	81	W	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Norfolk, Virginia	29.66	753.4	29.72	754.9	43	6.1	79	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
North Platte, Nebraska	27.11	688.6	29.75	755.6	36	2.2	49	S	9	4.0	.....	10c	0	Calm	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.86	758.4	29.91	759.7	35.0	1.7	90	SE	3	1.3	.....	10ck	0	NW	.....	0	0	Cloudy	
Omaha, Nebraska	28.94	735.1	30.09	764.3	31	— 0.6	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.27	743.4	29.59	751.6	34	1.1	100	NW	12	5.4	.....	.....	10s	.....	NW	0.12	3.0	Cloudy	
Pembina, Dakota	28.82	732.0	29.70	754.4	14	—10.0	100	SE	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Pensacola, Florida	30.08	764.0	30.11	764.8	60	15.6	88	NW	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pennsylvania	29.59	751.6	29.64	752.8	41	5.0	82	NW	6	2.7	.....	8k	2s	NW	NW	0.02	0.5	Clearing	
Phœnix, Arizona	28.87	733.3	30.71	780.0	60	10.0	65	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.64	448.0	29.85	758.2	10	—12.2	58	SW	33	14.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Pilot Point, Texas	29.26	743.2	30.10	764.5	50	10.0	72	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Pioche, Nevada	23.91	607.3	29.68	753.9	28	— 2.2	54	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.99	736.3	29.81	757.2	37	2.8	71	NW	9	4.0	.....	.....	10s	.....	NW	0.10	2.5	Cloudy	
Port Huron, Michigan	29.17	740.9	29.85	758.2	29	— 1.7	80	NW	15	6.7	.....	.....	10n	.....	W	Inap.	Inap.	Light snow.	
Portland, Maine	29.57	751.1	29.62	752.3	30	3.9	82	S	11	4.9	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Portland, Oregon	29.93	760.2	30.00	762.0	35	1.7	85	NW	3	1.3	.....	.....	10ks	.....	NW	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	52	11.1	86	SW	17	7.6	.....	10cs	0	S	.....	0	0	Cloudy	
Prescott, Arizona	24.72	627.9	30.08	764.0	40	4.4	48	S	5	2.2	.....	8c	2s	S	S	0	0	Cloudy	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	61	16.1	82	Calm	0	0	.....	1ck	0	SW	.....	0	0	Clear	
Red Bluff, California	29.72	754.9	30.08	764.0	43	6.1	92	SE	13	5.8	.....	.....	10n	.....	.....	0.07	1.8	Light rain	
Rio Grande City, Texas	29.82	757.4	30.04	763.0	66	18.9	95	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Rochester, New York	29.00	736.6	29.62	752.3	32	0.0	89	NW	11	4.9	.....	.....	10n	.....	Calm	0.22	5.6	Light snow.	
Roseburg, Oregon	29.47	748.5	30.05	763.3	39	3.9	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.00	762.0	30.08	764.0	48	6.1	92	SE	5	2.2	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
St. Louis, Missouri	29.54	750.3	30.13	765.3	39	3.9	55	NW	8	3.6	.....	5ck	0	W	.....	0	0	Fair	
St. Paul, Minnesota	29.14	740.1	30.01	762.2	25	— 3.9	76	SW	6	2.7	.....	1ck	0	NW	.....	0	0	Clear	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	33	0.6	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.37	746.0	29.95	760.7	65	18.3	94	S	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
San Diego, California	30.00	764.3	30.16	766.1	46	7.8	84	NE	4	1.8	.....	0	1ks	.....	Calm	0.31	7.9	Clear	
Sandusky, Ohio	29.23	742.4	29.92	760.0	34	1.1	70	NW	26	11.2	.....	2k	0	NW	.....	0	0	Fair	
Sandy Hook, New Jersey	29.57	751.1	29.60	751.8	39	3.9	82	NW	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
San Francisco, California	30.01	762.2	30.08	764.0	46	7.8	80	SE	6	2.7	.....	.....	10s	.....	SE	0.22	5.6	Cloudy	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	33	0.6	89	SE	3	1.3	.....	.....	10n	.....	SE	0.02	0.5	Light rain	
Savannah, Georgia	29.86	758.4	29.96	761.0	52	11.1	79	SW	7	3.1	.....	5c	Sm'e	W	Calm	0	0	Fair	
Shreveport, Louisiana	29.88	758.9	30.10	764.5	57	13.9	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	29.86	758.4	29.90	759.4	55	12.8	87	SW	15	6.7	.....	8k	1s	SW	Calm	0	0	Cloudy	
Socorro, New Mexico	25.44	646.2	29.50	749.3	48	8.9	63	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.43	747.5	30.13	765.3	38	3.3	69	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.42	747.3	29.55	750.6	36	2.2	90	S	1	0.4	.....	.....	10n	.....	S	0.11	2.8	Light rain	
Stockton, Texas	27.06	687.3	30.06	763.5	49	9.4	31	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.57	751.1	29.63	752.6	38	3.3	91	SE	18	8.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	29.20	741.7	29.90	759.4	35	1.7	61	W	10	4.5	.....	1c	0	W	.....	0	0	Clear	
Tucson, Arizona	27.56	700 0	30.11	764.8	54	12.2	86	SE	2	0.9	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Umatilla, Oregon	29.70	754.4	30.22	767.6	30	— 1.1	83	E	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.15	740.4	29.96	761.0	62	16.7	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Vicksburg, Mississippi	29.86	758.4	30.12	765.0	57	13.9	100	Calm	0	0	.....	5cs	Fog	W	.....	0	0	Fair	
Virginia City, Montana	24.17	613.9	29.65	753.1	20	— 6.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.69	754.1	30.08	764.0	40	4.4	91	S	3	1.3	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Washington, D. C.	29.69	754.8	29.72	754.9	44	6.7	60	NW	6	2.7	.....	.....	8ks	.....	NW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	91	NW	.....	.....	1	10cs	0	W	.....	0	0	Cloudy	
Wilmington, North Carolina	29.78	756.4	29.86	758.4	53	11.7	73	SW	7	3.1	.....	8ck	0	NW	.....	0	0	Fair	
Winnemucca, Nevada	25.51	647.9	29.87	758.7	27	— 2.8	88	NE	4	1.8	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	
Wood's Holl, Massachusetts	29.57	751.1	29.61	752.1	41	5.0	73	SE	26	11.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.74	730.0	30.12	765.0	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.93	760.2	30.08	764.0	46	7.8	54	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Sub-Series.																			
Bogota, U. S. Colombia	21.90	558.5	.....	.....	55.0	12.8	74	Calm	.....	.....	0	7k	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.99	761.7	30.04	763.0	73	22.8	67	NW	7.2	3.2	.....	0	4ks	.....	NW	0.10	2.5	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	73	22.8	90	Calm	0	0	.....	0	0	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	76	24.4	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	76	24.4	91	SE	.....	.....	2	3c	5k	E	.....	0.410	10.41	Fair	C. J. Hering.
Puerto Berrio, U.S. Colombia	29.44	747.8	29.99	761.7	80	26.7	78	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.30	769.6	30.35	770.9	—31.0	—35.0	.....	NW	10	4.5	.....	.....	10s	.....	N	0	0	Threatening	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.8 ft., or 519.6 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,300 (?) ft., or 549(?) m.; Pike's Peak, 14,-160.7 ft., or 4,319.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.99 in., or 33.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.07‡	763.8‡			58	14.4	88	NW	3	1.3			10		NW	1.40	35.6			Cloudy	
Navy Yard, Portsmouth, N.H	29.59‡	751.6‡			36	2.2	90	SE	10	4.5			10							Snowing	
Naval Hospital, Yokohama, Japan	30.24‡	768.1‡			36	2.2	53	NE			3	3ck		W		0	0			Fair	
Adams, N. 15° 02′, W. 94° 04′	30.10‡	764.6‡			76	24.4	95	NE			4		1		N			Long	NW	Clear	
Colorado, New York, N. Y.	29.55‡	750.6‡			38	3.3		NW	2	0.9			8		WNW	0	0			Cloudy	
Constitution, Aspinwall, Panama	29.98‡	761.5‡			77	25.0	95	N			4		4		N			Mod'ate	N	Pleasant	
Enterprise, Naples, Italy	29.95‡	760.7‡			59	15.0	70	SSE			3		4		SSW			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	29.75‡	755.6‡			48	8.9	56	SW	12	5.4			8		SSW	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡			45	7.2	100	E	1.2	0.5			0?			0.092	2.34			Overcast	
Kearsarge, Boca del Toro, Chiriqui	30.03‡	762.7‡			76	24.4	82	W			1–2		8		W			Smooth		Cloudy	
Lackawana, Navy Yard, Mare I'd., Cal.	30.10‡	764.5‡			50	10.0	100	E			0–1		10		E					Cloudy	
Marion, S. 34° 56′, W. 55° 55′								S;E			3–4					Light	Light	Smooth		Clear	
Michigan, Erie, Pa.	29.68‡	753.9‡			32	0.0	69	W			5		8		NW					Cloudy	
Monocacy, Shanghai, China	30.53‡	775.4‡			34	1.1	79	NE			1		0							Clear	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡			55	12.8	74	SSW	9	4.0			2		W	0	0			Clear	
Nipsic, N 25° 50′ W. 66° 40′	29.90‡	759.4‡			71	21.7	75	NNW			4		5		NNW			Light	NW	D. clouds	
Onward, Callao, Peru †.	29.89‡	759.2‡			69	20.6	90	Calm			0		8					Long	W	Fair	
Palos, Tientsin, China	30.56‡	776.2‡			32	0.0	??	SE			2		0							Clear	
Passaic, Washington, D. C.	29.69‡	754.1‡			43	6.1	75	Calm			0		2							Clear	
Pensacola, N. 5° 00′, W. 75° 28′	29.86‡	758.4‡			69	20 6	??	N			5		8					Smooth		D. clouds	
Powhatan, Norfolk, Va.	29.78‡	756.4‡			49	9.4	63	SW			2–3		5		W					Fair	
Quinnebang, Leghorn, Italy	29.69‡	754.1‡			56	13.3	69	WSW			3		5		W					Fair	
Richmond, Hong-Kong, China	30.25‡	768.3‡			55	12.8	87	N			1		10		N	0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	30.17‡	766.3‡			68	20.0	??	SSE	3	1.3			10		SSE	0	0			Cloudy	
Santee, Annapolis, Md	29.72‡	754.9‡			45	7.2	61	NW			1		2		NW	0	0			Clear	
Shenandoah, Montevideo, Uruguay	30.01‡	762.2‡			69	20 6	70	SSE			5		10		SSE			Long	SSE	Cloudy	
St. Louis, League Island, Pa.	29.70‡	754.4‡			40	4.4	91	NNW	10	4.5			10		NW	0	0			Cloudy	
Swatara, N. 36° 49′, E. 1° 10′	30.10‡	764.5‡			58	14.4	70	WNW			2		2		NW			Smooth		Clear	
Tennessee, Norfolk, Va.	29.75‡	755.6‡			48	8.9	70	SW	3	1.3			8		NE	0	0	Smooth		Cloudy	
Trenton, Toulon, France	29.81‡	757.2‡			58	14.4	87	WNW			6		2			2 h'rs	2 h'rs			Clear	
Tuscarora, N. 16° 43′, W. 99° 45′	29.96‡	761.0‡			78	25.6	77	NW			2		0			0	0	Smooth		Clear	
Vandalia, Navy Yard, Brooklyn, N.Y	29.59‡	751.6‡			41	5.0	83	NW			3		10		SE					Cloudy	
Wabash, Boston, Mass.	29.65‡	753.1‡			38	3.3	63	SSE	10	4.5			10			0	0			Cloudy	
Wachusett, Montevideo, Uruguay	30.54‡	775.7‡			69	20.6	70	SSE			4		0						S	Fair	
Wyoming, Naples, Italy	29.85‡	758.2‡			58	14.4	70	S			1–2		5?		S			Smooth	S	Cloudy?	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer																			
S. S. Moravian, J. Graham, N. 52° 17', W. 28° 36'	30.40‡	773.7‡	48	6.1	83	WNW			2		8		WNW	0	0	Smooth	NW	Cloudy.	John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton Halifax, N. S	29.87‡	758.7‡				NW			3		8?		NW					Clear?	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr.
S. S. Indiana, R. W. Sargent Liverpool, Eng	30.16‡	766.1‡	52	11.1	79	N			5		9		WNW	Mod'ate	Mod'ate			Cloudy.	
S. S. Ohio, Henry Morrison. N. 45° 17', W. 45° 09'...†*	30.23‡	767.8‡	53	11.7		S			4		5		S	0	0	Mod'ate	S	Fair...	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 45° 52', W. 46° 51'	30.08‡	764.0‡	46.5	8.1	88	S			5		8		SW	0	0	Long	S	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	30.14‡	765.5‡	54	12.2	93	N.			2		8		N					Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal	29.93‡	760.2‡			93	SW			2		8		SE	Light	Light	Smooth		Drizzling	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, San Francisco, Cal	30.08‡	764.0‡	47	8.3		SE			2		10		SE	0	0			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Punta Arenas, Costa Rica†	29 89‡	759 2‡	75	23.9	86	E			1		0			0	0	Small	ENE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann, N. 39° 32′, W. 124° 09′	30.03‡	762 7‡	49	9.4		SE			2		10		S			Light	NW	Cloudy	E. Polemann.
S. S. City of Panama, M. Connolly, Panama†	29.88‡	758.9‡	72	22.2		NW			1		0			0	0	Smooth		Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 28° 02′, W. 115° 59′†	30.09‡	764.3‡	60	15.6	94	E			3		9		ESE	0.04	1.0	Smooth	W	Misty	
S. S. Dakota, D. E. Griffiths N. 47° 49′ W. 124° 52′†	29.93‡	760.2‡	42	5.6		N			1		8		W	Light	Light	Light	W	Foggy	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 23° 59′, W. 153° 42′	30.11‡	764.8‡				E			3				SE			Mod'ate	NE	Clear	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 43° 44′, W. 46° 05′†	30.12‡	765.0‡	57	13.9		SSE	6	2.7			8		S	0	0	High	S	Fine	J. Farmer & W. Apstan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 39° 18′, E. 127° 42′	30.12‡	765.0‡	66	18.9		ENE			4		10		NE			Mod'ate	SW	Squally	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
Iron Cross, W. Randall, N. 17° 23′, W. 31° 42′	30.14‡	765.5‡	72	22.2	67	NNE			4		4		ENE	0	0	Long	NNW	D. clouds	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

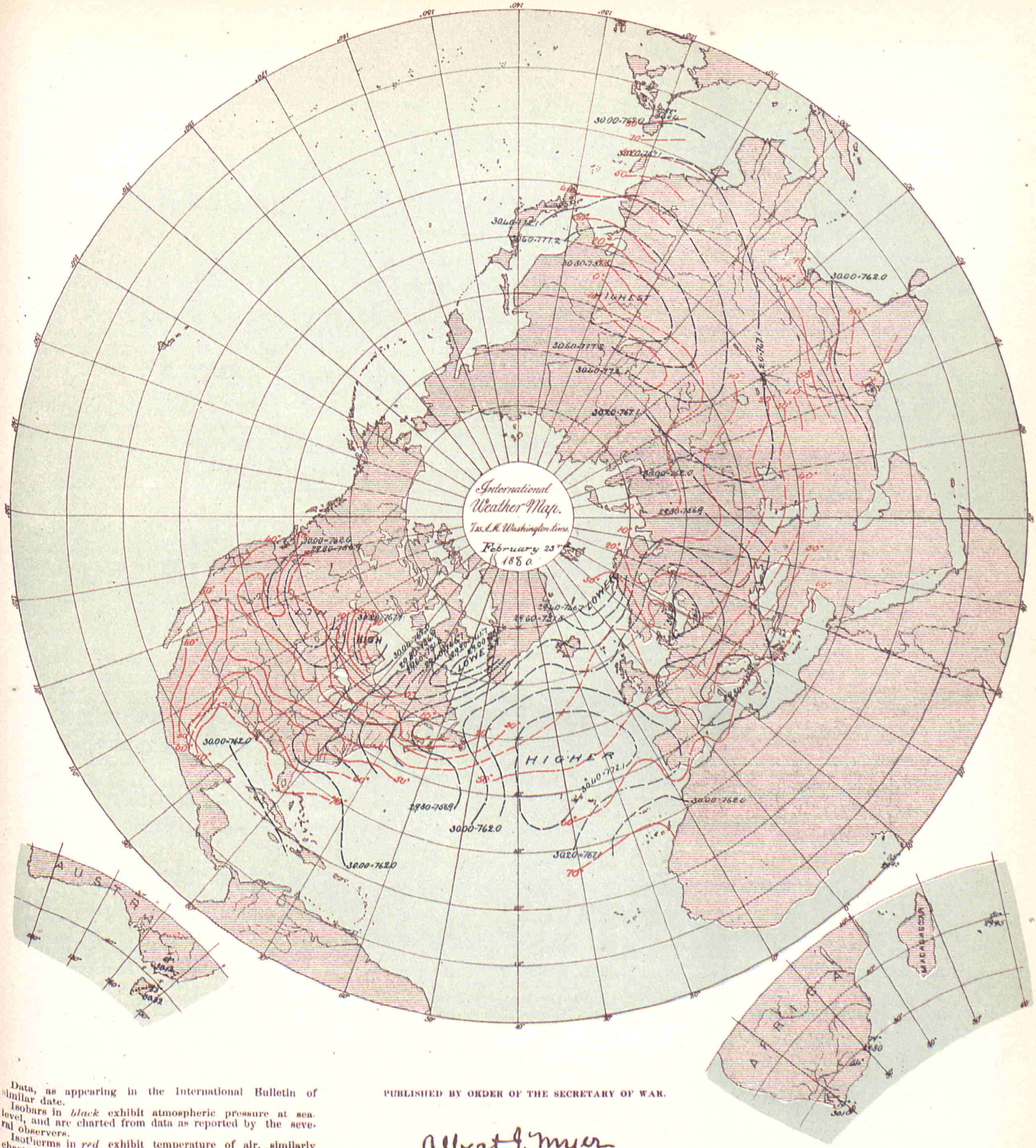
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given: D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 24, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.00	761.9				SW					7			0	0	Very cloudy	
Nemours			30.02	762.4	63.0	17.2	61	NNE			4		4			0	0	Cloudy	Kesxuche.
Algiers			30.06	763.5	58.6	14.8	55	NW			3		1			0	0	Very fair	Tourillere.
La Calle			30.11	764.8	67.0	19.9	73	NNW			5		7			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.14	765.6															Gau.
Saida			29.97	761.3															Herbin.
Tebessa			30.14	765.5	50.1	13.4	17	NNW			4		0			0	0	Clear	Watrin.
Geriville																			Brugniaux.
Laghouat			30.11	764.8	61.2	16.2	44	SSE			1		0			0	0	Clear	Bertrand.
Biskra			30.12	765.1	67.6	19.8	57	WNW			1		0			0	0	Clear	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.21	742.0	29.78	756.5	34.7	1.5	96	E			3	10			0.461	11.7	Rain & snow	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.6	30.12	765.0	31.3	— 0.4	89	ENE	20.6	9.2		0			0	0		Dr. Wierzbicki.
Eperies	29.07	738.4	29.99	761.8	32.0	0.0	81	N			3	1cs		W	0	0		Julius Mikolik.
Gratz	28.56	725.5	29.85	758.3	36.1	2.3	88	WNW			3	10			1.409	35.8		Andreas Rospini.
Hermannstadt	28.37	720.6	29.82	757.4	43.9	6.6	88	SE			4	1			0.108	2.75		Prof. A. Gottschling
Kremsmünster, Observatory	28.54	724.9	29.93	760.3	33.8	1.0	96	NNE			1	10			0.173	4.4		The Staff.
Lemberg	29.08	738.6	30.13	765.4	25.0	— 3.9	60	SE			1	0			0	0		Dr. T. Stanecki.
Pola	29.66	753.3	29.78	756.3	47.3	8.5	88	WNW			1	8			0.102	2.6		I.R. Hydrographic Office.
Szathmar	29.39	746.5	29.86	758.5	44.2	6.8	90	N			2	1			0	0		Pet. Pancsics, S. J.
Szegedin	29.50	749.3	29.79	756.6	37.4	3.0	91	SE			3	10			0.181	4.60		Karl Stancel.
Trieste	29.69	754.2	29.80	756.8	44.4	6.9	77	E			1	10			0.256	6.5	Raining	P. Busin.
Vienna	29.18	741.1	29.92	760.0	38.1	3.4	80	NNW			2	10			0.232	5.9		I.R. Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau,
Brussels	29.97	761.3	30.18	766.0	35.6	2.0	74	NE			2	10		NE	Inap.	Inap.			Royal Observatory.
Furnes	30.22	767.6	30.24	768.2	37.2	2.9	75	NNE			4	10			0.012	0.3			M. E. de Cae.
Maeseyck	30.06	763.5	30.19	766.7	35.1	1.7	84	NE			2	10			0	0			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.15	765.8	30.25	768.3	47.0	8.3	.....	WSW	11	4.9	.....	.....	4	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.30	769.6	30.31	769.9	45	7.2	.....	WSW	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky.....	G.Carrick.
Armagh, (Observatory)	30.15	765.8	30.38	771.6	46.9	8.3	.....	S	3	1.3	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.36	771.1	42.8	6.0	.....	NNE	3	1.3	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton (Sharples)	29.79	756.7	30.32	770.1	42.1	5.6	.....	ENE	9	2.7	.....	.....	3	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.93	760.2	30.32	770.1	42.5	5.8	70	NW	.....	.....	1	.....	3	.....	.....	0.01	0.3	D. clouds.....	J McLandsborough.
Bridgetown, Barbadoes	29.95	760.7	29.98	761.5	77.5	25.3	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	30.20	767.1	30.30	769.6	41.0	5.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.30	769.6	41.0	5.0	.....	N	.....	.....	0–1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham (School M. E.)	30.12	765.0	30.26	768.6	38.1	3.4	.....	NE	.....	.....	0	.....	9k	.....	.....	.....	.....	Gloomy	Lance Corp'l Hooker, R. E.
Donaghadee	30.33	770.4	30.37	771.4	50	10.0	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.20	767.1	30.23	767.8	39	3.9	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth (Observatory)	30.12	765.0	30.35	770.9	48.7	6.5	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy.....	The Staff.
Fort Napier, Natal	27.85	707.4	30.06	763.5	70.2	21.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.64	752.8	29.87	758.7	86	29.4	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	
Galway (Queen's College)	.....	.....	30.37	771.4	48	8.9	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	M. J. O'Donaghue.
Gibraltar, Mediterranean.§	29.88	758.9	29.93	760.2	60.0	15.6	.....	E	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds.....	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	30.10	764.5	30.30	769.6	46.0	7.8	.....	SW	.....	.....	2	.....	9k	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.28	769.1	30.28	769.1	39	3.9	.....	NE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich (Royal Obs'y)	30.12	765.0	30.30	769.6	39.5	4.2	.....	NNE	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G.B.Airy.
Guernsey	30.02	762.5	30.24	768.1	41.5	5.3	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Dr. S.E.Hoskins, F.R.S.
Helston	30.38	771.6	30.51	774.9	49	9.4	.....	NE	.....	.....	2	3c	.....	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.29	769.4	30.36	771 1	44	6.7	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.98	761.5	30.29	769.4	42.4	5.8	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew (Observatory)	30.26	768.6	30.30	769.6	40.5	4.7	.....	NNE	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty.....	The Met'g'l Office.
Leicester (Museum)	29.99	761.7	30.26	768.6	35.2	1.8	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.99	761.7	66	18.9	.....	NW	.....	.....	3	.....	1k	.....	.....	.....	.....	Blue sky.....	A. King.
Nairn	30.10	764.5	30.19	766.8	45	7.2	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.08	764.0	71.0	21.7	.....	NW	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds. ...	C. S. Duncombe.
Nottingham (Observatory)	30.16	766.1	30.36	771.1	41.3	6.1	.....	NNE	.....	.....	3	.....	10k	.....	NNE	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.80	756.9	30.35	770.9	38.9	3.8	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	30.09	764.3	30.34	770.6	40	4.4	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for E. J. Stone, Esq
Plymouth	30.24	768.1	30.32	770.1	43.1	6.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
*Roche's Point	30.30	769.6	30.39	771.9	47	8.3	.....	E	.....	.....	4	.....	8	.....	.....	Blank	Blank	¾ clouded..	Wm. Kennedy.
St. Ann's Head	30.18	766.6	30.35	770.9	43	6.1	.....	ENE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.14	765.5	43.7	6.5	.....	W	28	12.5	.....	.....	10	.....	.....	.....	.....	Showery.....	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.82	757.4	29.89	759.2	58.8	14.9	.....	Calm	.....	.....	0	.....	9	.....	.....	Blank	Blank	Gloomy	Serg't W. H. Lyne.
Sheffield	30.07	763.8	30.37	771.4	40.1	4.5	.....	N	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.29	769.4	30.32	770.1	44.7	7.1	83	W	.....	.....	1	.....	8	.....	.....	0	0	D. clouds.....	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	30.35	770.9	42.6	5.9	.....	NW	5	2.2	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Strathfield, Turgiss	30.08	764.0	30.30	769.6	40.0	4.4	.....	NE	.....	.....	2–3	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.30	769.6	30.32	770.1	49	9.4	.....	SE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia Observatory)	30.38	771.6	30.41	772.4	45.7	7.6	.....	NE	21	9.4	.....	.....	10	.....	.....	Blank	Blank	D. clouds.....	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.93	760.2	29.97	761.2	85.4	29.7	55	S	4.2	1.9	.....	4	6ck	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	26.78	680.2	.....	.....	81	27.2	.....	SE	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.52	775.2	69.0	20.6	83	NE	.....	.....	3	.....	0	.....	.....	0	0	Star light....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	30.31	769.9	46.8	8.2	.....	W	.....	.....	2	.....	4k	.....	.....	0	0	Fine.....	C. Meldrum.
Mauritius (Observatory)	29.76	755.9	29.95	760.7	80.0	26.7	75	ENE	13.5	6.0	.....	2	2	N	ENE	0.19	4.8	Fine.	R. L. J. Ellery.
Melbourne (Observatory)	29.92	759.9	30.01	762.2	77.0	25.0	63	Calm	0	0	.....	.....	10	.....	.....	0	0	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	30.28	769.1	47	8.3	.....	NW	.....	.....	4	3	5	NW	.....	0	0	.....	
North Unst, Shetland Is	.....	.....	30.01	762.2	.....	.....	.....	NW	.....	.....	6	4	6	NW	.....	0	0	.....	

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Fretown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from	Weather.	Observer.
City of Agra, S. 18° 39′, W. 25° 51′	.....	.....	30.08‡	764.0‡	80.8	27.1	NE	.....	.....	4	.....	5	.....	.....	Smooth	.....	D. clouds.....	Capt. Thos. Young.
City of Cashmere, S. 2° 09′, W. 32° 05′	.....	.....	29.96‡	761.0‡	80.6	26.9	ESE	.....	.....	5	.....	8ks	.....	ENE	Swell	NNW	Showery.....	Capt. W. M. Grieve.
Barque Dochra, S. 31° 36′, W. 32° 02′	.....	.....	30.12‡	765.0‡	77.5	25.3	N	.....	.....	4	.....	5k	WNW	N	.....	.....	D. clouds.....	Capt. N. Spalding.
S. S. German, S. 19° 36′, W. 0° 24′	.....	.....	30.03‡	762.7‡	70	21.1	E	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 30° 37′ E. 30° 31′	.....	.....	30.17‡	766.3	77.3	25.2	NE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Connewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Bute Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

Note.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer, corrected for instrumental error and temperature. Inches.	Barometer, corrected for instrumental error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.26	667.0	29.98	761.5	59.9	15.5	84	SE	.....	.....	2	1d	0	E	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.20	767.0	30.24	768.2	29.8	— 1.2	84	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Farõe	30.26	768.5	30.28	769.0	30.4	— 0.9	90	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.72	755.0	29.77	756.1	18.7	— 7.4	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	.....
Stykkisholm (Iceland)	29.55	750 5	29.59	751.6	34.2	1.2	78	SW	.....	.....	7	.....	8	.....	.....	.....	.....	Snowing	.....
Thorshavn (Farõe)	29.78	756.4	29.82	757.3	42.1	5.6	61	SW	.....	.....	8	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	30.11	764.8	30.22	767.6	34.5	1.4	91	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.67	753.7	30.23	767.7	40.1	4.5	93	NE	.....	.....	3	.....	10	.....	.....	0.008	0.2	Covered	Collignon, Director.
Amiens, Normal School	30.10	764.5	30.21	767.4	38.8	3.8	93	SW	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.004	0.1	.....	Klein, Commandant.
Avignon, Normal School	29.89	759.1	29.97	761.1	50.0	10	5	N	.....	.....	4	.....	2	.....	N	0	0	Partly cl'd'y	Giraud, Director.
Bar-sur-Seine	29.51	749.5	30.10	764.2	40.1	4.5	90	ENE	.....	.....	2	.....	10	.....	.....	0.248	6.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.93	760.1	30.21	767.2	37.9	3.3	78	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.11	739.5	30.00	762.1	40.5	4.7	87	S	.....	.....	1	.....	10	.....	W	0.402	10.2	Covered	A. Carré, Director.
Bordeaux	29.98	761.4	30.17	766.4	45.1	7.3	77	NNW	.....	.....	1	.....	10	.....	.....	0.179	4.55	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.08	764.0	38.8	3.8	97	N	.....	.....	2	.....	10n	N	N	0.173	4.4	Raining	Marlot, Director.
Bourges, Normal School	29.54	750.4	30.11	764.7	42.1	5.6	94	N	.....	.....	1	.....	10n	.....	N	0.098	2.5	Covered	M. Gence, Director.
Brest, Naval Observatory	30.04	762.9	30.28	769.1	45.7	7.6	85	NE	.....	.....	1	.....	10	.....	NE	0	0	Misty	Ch. de Rermaree, Dir
Caen, Normal School	30.15	765.7	30.23	767.9	41.4	5.2	84	NE	.....	.....	4	.....	5	.....	NE	0.102	2.6	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.70	754.4	30.13	765.3	44.6	7	76	W	.....	.....	2	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.80	756.9	30.15	765.8	40.1	4.5	80	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Jadot, Director
Chartres, Normal School	29.57	751.1	30.17	766.2	36.9	2.7	87	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.66	728.0	30.07	763.7	40.1	4.5	72	W	.....	.....	3	.....	10	.....	.....	0.059	1.5	.....	Alluard, Director.
Commercy, Normal School	29.19	741.3	30.08	763.9	39.4	4.1	87	N	.....	.....	2	.....	10	.....	.....	0.268	6.8	Sprinkling	Dr. Coullet, Director.
Commune de Gréasque*	28.73	729.8	29.87	758.8	46.9	8.3	42	NW	.....	.....	6	.....	2	.....	NW	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.26	743.2	30.06	763.4	39.6	4.2	87	NW	.....	.....	2	.....	10n	.....	SW	0.134	3.4	Covered	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.95	760.7	30.17	766.3	49.3	9.6	70	WNW	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.90	759.4	30.22	767.6	41.4	5.2	75	NNE	.....	.....	4	.....	10	.....	N	0	0	Covered	Poirier, Director.
Lons-Le-Saulnier, N. School	29.10	739.0	30.03	762.7	38.3	3.5	90	W	.....	.....	1	.....	10n	.....	N	0.35	9.	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.17	766.2	30.28	769.0	46.0	7.8	86	NNW	.....	.....	1	.....	8	NW	N	0.043	1.1	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.39	746.5	30.03	762.7	41.5	5.3	75	NNW	.....	.....	1	.....	10	.....	NNW	0.004	0.1	Rainy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.57	751.0	29.84	757.9	50.2	10.1	55	NW	.....	.....	6	.....	1	.....	NW	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.85	732.6	29.93	760.2	38.1	3.4	86	NE	.....	.....	3	.....	10	.....	.....	0.20	5.	Covered	Barbier, Director.
Mont-Louis	24.77	629.1	30.08	764.1	33.3	0.7	78	W	.....	.....	3	.....	0	.....	.....	0.118	3.0	.....	M. Cave, for Dr. Fines.
Nice	29.73	755.2	29.77	756.1	56.1	13.4	60	WSW	.....	.....	2	.....	1	W	WSW	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.96	760.9	30.13	765.2	52.2	11.2	73	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	M. Boyer, Director.
Perpignan	29.93	760.2	30.04	762.9	50.2	10.1	48	NW	35.3	15.8	.....	.....	5	NW	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.41	569.3	.....	.....	21.0	— 6.1	.....	.....	.....	.....	.....	.....	10	.....	NNW	1.433	36.4	Snowy	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.94	735.0	30.03	762.8	42.8	6	66	N	.....	.....	4	.....	10	SW	SW	0	0	Covered	M. Tallien
Puy de Dome (Summit) Obs	25.03	635.7	.....	.....	24.8	— 4.0	100	WNW	.....	.....	4	.....	Fog	.....	.....	0.394	10.0	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	49.1	9.5	86	N	.....	.....	2	.....	10	N	N	0	0	Covered	Lt. E. Decante, Director
Rouen, Normal School	30.12	765.0	30.21	767.2	39.6	4.2	70	N	.....	.....	2	.....	10	.....	.....	0.008	0.2	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	30.21	767.4	30.24	768.2	43.5	6.4	75	ENE	.....	.....	2	.....	10	NE	NE	0.014	0.35	Misty	Lt. Hercouet, Director
Saint Maur (near Paris)	30.00	761.9	30.16	766.1	39.2	4.0	88	NNE	.....	.....	2	.....	10	.....	NNE	0.047	1.2	Covered	E. Renou, Director.
Tarbes, Normal School	29.11	739.5	30.23	767.9	42 6	6	85	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.48	748.8	30.21	767.3	42.6	5.9	94	W	.....	.....	2	.....	10	.....	.....	0.091	2.3	Covered	B. Baillaud, Dir.
Tours	29.95	760.7	30.15	765.7	45.1	7.3	71	NNE	.....	.....	1	.....	10	.....	NNW	0	0	Covered	M. de Tastes.
Versailles, Observatory	29.76	755.8	30.17	766.2	38.1	3.4	76	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.20	741.8	29.94	760.4	41.0	5	92	NNW	.....	.....	3	.....	10	.....	N	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	762.9	30.07	763.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.88	758.9	.....	.....	38.3	3.5	83	N	.....	.....	3	.....	10	.....	NNE	0.008	0.2	.....	Marié Davy, Director.
Zi-Ka-Wei (near Shanghai)	30.40	772.2	30.43	772.9	38.5	3.6	80	ESE	2.9	1.3	.....	ck	10k	.....	.....	0	0	Covered	Marc Dechevrens, J. S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second. The rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m., local time. The elevation of Clermont-Ferrand is 398 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 136.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bamberg	29.14	740.2	30.00	762.1	36.9	2.7	87	NE			6		10n			0.020	0.5	Rain & snow	Prof. Dr. Hoh.
Berlin	29.98	761.5	30.16	766.1	32.7	0.4	76	E			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.59	751.6	30.12	765.1	32.0	0.0	65	E			3		3			0	0		Royal University Obs'y
Carlsruhe	29.60	751.8	30.04	763.1	37.0	2.8	92	N			1		10	NE		0.118	3.0	Raining	Albert Senz.
Cassel	29.48	748.9	30.10	764.4	33.8	1.0	92	N			1		10	N		0.057	1.45		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.76	755.9	30.13	765.4	39.0	3.9	59	N			3		10			0.008	0.2		Physical Society.
Friedrichshafen	28.51	724.2	29.99	761.7	38.5	3.6	90	W			2		10	W		0.193	4.9	Rain & snow	Chief Telegrapher Wilhelm.
Hamburg	30.19	766.7	30.26	768.5	31.3	— 0.4	83	NE			2		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.24	768.1	30.26	768.5	33.1	0.6	87	ENE			4		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.23	767.8	30.32	770.1	26.4	— 3.1	78	SE			3		0			0	0		Prof. E. Luther.
Köslin			30.23	767.9	32.0	0.0		SE			2		1			0	0		H. Müller.
Leipsic Observatory	29.69	754.2	30.13	765.4	32.2	0.1	83	NE			3		10			0	0		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.96	760.9	30.19	766.7	33.3	0.7	85	NE			3		10cks	NE		0	0		Dr. Assmann.
Memel	30.27	768.8	30.32	770.0	25.2	— 3.8	84	N			1–2		0						Reinbrecht & Issermann
Munich (München)	28.09	713.4	30.00	762.0	35.8	2.1	96	N			3		10			0.114	2.9	Raining	Dr. C. Lang.
Neufahrwasser	30.26	768.6	30.28	769.2	31.5	— 0.3	74	SE			2		0			0	0		A. Lothes.
Neustadt (Palatinate)	29.50	749.4	30.03	762.8	37.4	3.0	83	NNW			1		10			0.362	9.2		Reallehrer Dicknether
Posen	29.88	759.0	30.19	766.7	31.3	— 0.4	70	E			6		0			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.50	749.2	30.07	763.7	37.4	3.0	89	NNE			3		10	NE		0.654	16.60		Imp. University Observatory.
Stuttgart	29.01	736.9	29.94	760.4	37.9	3.3	87	N			1		10			0.094	2.4	Raining	Prof. Dr. Schoder.
Thorn	30.10	764.5	30.29	769.3	32.7	0.4	47	E			3		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.46	722.8	30.04	762.9	38.3	3.5	88	NNE	0.9	0.4			10		NE	0.146	3.7	Rain & fog	Reallehrer J. Hopfner.
Wustrow	30.21	767.3	30.23	767.9	30.6	— 0.8	96	ENE			6		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,406.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.90	759.5	61.7	16.5		S			5.0		0					Clear.	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omitthe humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.6	29.96	760.9	72.5	22.5	44	WNW	12	5.4			0			0	0	Blue sky	
Deesa	29.48	748.7	29.95	760.7	84.3	29.1	20	W	8.7	3.9			0			0	0	Blue sky	
Bombay	29.94	760.6	29.98	761.5	77.5	25.3	68	WNW	6	2.7			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.2	29.93	760.3	80.8	37.1	21	NW	22	9.8			0			0	0	Blue sky	
Belgaum	27.40	696.0	29.95	760.7	75.0	23.9	58	WNW	10	4.5			0			0	0		
Lahore	29.21	741.9	29.97	761.3	67.7	19.8	47	Calm	1.0	0.4			3			0	0	D. clouds	
Roorkee	29.06	738.2	29.99	761.7	68.8	20.4	52	Calm	1.5	0.7			4			0	0		
Agra	29.41	747.0	29.98	761.6	75.7	24.3	34	SW	3.4	1.5			2			0	0		
Nagpur	28.86	733.2	29.90	759.5	86.7	30.4	45	Calm	3.9	1.7			7		W	0	0	D. clouds	
Jubbulpore	28.58	725.8	29.96	761.0	74.8	23.8	39	Calm	2.2	1.0			3		E	0	0	D. clouds	
Lucknow	29.63	752.6	30.02	762.4	69.3	20.7	46	NW	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.68	753.9	30.00	762.1	68.6	20.3	49	Calm	1.0	0.4			1		W	0	0	D. clouds	
Patna	29.83	757.8	30.02	762.5	69.9	21.1	46	W	1.0	0.4			4		W W	0	0	D. clouds	
Hazaribagh	27.94	709.7	30.00	762.0	68.0	20.0	38	NW	4.2	1.9			0			0	0	Blue sky	
Cuttack	29.90	759.4	29.98	761.5	80.2	26.8	64	S	1.1	0.5			1			0	0	Blue sky	
Calcutta (Alipore)	29.06	761.0	29.98	761.5	75.1	23.9	68	SW	3.0	1.3			2		NW	0	0	D. clouds	
Goalpara	29.96	760.8	29.96	761.0	67.8	19.9	48	W	2.0	0.9			1			0	0	D. clouds	
Chittagong	29.91	759.8	30.00	762.1	72.6	22.6	50	NW	3.9	1.7			0			0	0		
Sibsagar	29.69	754.0	30.04	763.0	64.5	18.1	77	NW	1.7	0.8			0			0	0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.39	746.5	29.81	757.1	45.1	7.3	74	E	1.8	0.8	.....	.....	10	.....	.....	1.433	36.4	.....	Prof. Giovanni Clodig.
Milan	29.26	743.1	29.79	756.6	41.5	5.3	92	E	0.7	0.3	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. Schiaparelli.
Padua	29.69	754.1	29.80	757.0	45.5	7.5	84	NNE	9.4	4.2	.....	.....	10	NE	.....	0.311	7.9	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.84	732.5	29.77	756 2	48.7	9.3	69	SE	4.9	2.2	.....	.....	5	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.58	751.3	29.78	756.3	52.7	11.5	58	SW	1.8	0.8	.....	.....	6	N	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.85	707.3	29.80	756.9	47.8	8.8	37	NW	.....	.....	2	.....	8	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.74	755.3	29.79	756.6	41.2	5.1	95	N	11.2	5.0	.....	.....	10	.....	.....	0.055	1.4	.....	Prof. Luigi Guidi.
Florence	29.54	750.3	29.80	756.9	51.8	11.0	79	SW	.....	.....	2	.....	10	.....	.....	0.091	2.3	.....	Cav. F. Meucci.
Leghorn	29.71	754.5	29.79	756.7	49.1	9.5	81	W	3.1	1.4	.....	.....	10	.....	.....	0.551	14.0	.....	Prof. P. Monte.
Rome	29.62	752.4	29.80	757.0	53.8	12.1	61	WSW	20.6	9.2	.....	.....	7	.....	.....	0.205	5.2	.....	Prof. P. S. Ferrari.
Lecce	29.60	751.9	29.86	758.5	57.9	14.4	44	W	12.5	5.6	.....	.....	2	W	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.04	737.6	29.94	760.4	53.1	11.7	75	E	0.7	0.3	.....	.....	7	.....	.....	0.232	5.9	.....	Prof. D. Conti.
Cagliari	29.71	754.6	29.91	759.7	49.3	9.6	85	NW	.....	.....	2	.....	3	W	.....	0.370	9.4	.....	Prof. A. Pacinotti.
Palermo	29.72	755.0	29.98	761.5	59.5	15.3	39	W	6.3	2.8	.....	.....	4	W	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.89	759.3	29.94	760 4	58.5	14.7	49	WNW	2.5	1.1	.....	.....	2	WNW	.....	0	0	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.31	744.5	29.84	757.9	54.9	12.7	54	SW	11.9	5.3	.....	.....	8	.....	.....	0.118	3.0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.47	773.9	30.48	774.2	37.0	2.8	72	NNE	3.5	1.6	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.19	766.8	30.40	772.1	44.0	6.7	53	NE	12.8	5.7	.....	.....	7cs	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.23	767.8	30.30	769 6	38.1	3.4	54	NNW	7.3	3.3	.....	.....	10ck	.....	.....	0	0	Cloudy	The Staff.
Wakayama	30.40	772.1	30.46	773.7	37.6	3.1	59	N	6.0	2.7	.....	ck	7cs	.....	N	0	0	Cloudy	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.08	637.0	30.22	767.5	47.3	8.5	51	Calm	.....	.....	0	5cs	0	.....	.....	0	0	½ clouded	Prof. L. Perez.
Leon	24.40	621.4	30.18	766.5	57.4	14.1	71	N	.....	.....	1	1c	0	.....	.....	0	0	Clear.	Prof. M. Leal.
Mazatlan	29.77	756.1	30.03	762.8	61.5	16.4	100	SE	.....	.....	2	2cs	0	.....	.....	0	0	Foggy	F. Quijano, C. E.
Mexico, Central Observatory	23.09	586.5	30.19	766.8	48.2	9.0	48	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.10	612.1	.....	.....	60.1	15.6	43	SE	.....	.....	3	2k	0	S	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.98	609.1	30.36	764.1	52.3	11.3	63	Calm	.....	.....	0	4c	0	SW	.....	0	0	Fair	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.40	594.4	30.35	771.0	41.2	5.1	56	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.23	615.4	30.35	770.8	50.2	10.1	51	SE	.....	.....	1	1	0	W	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	30.04	762.9	30.05	763.2	79.0	26.9	90	S	.....	.....	1	1	3	W	S	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	30.02	762.6	30.05	763.3	73.4	23.0	91	Calm	0	0	.....	.....	7sk	.....	.....	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.59	573.8	30.28	769.0	54.5	12.5	57	E	.....	.....	1	3c	0	E	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,560.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.23	767.8	30.23	767.8	36.9	2.7	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Groningen	30.19	766.7	30.24	768.1	34.0	1.1	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Helder	30.24	768.2	30.24	768.2	35.2	1.8	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.22	767.5	30.22	767.5	34.9	1.6	71	NE	.....	.....	3	.....	.....	.....	.....	0.035	0.9	.....	
Utrecht	30.17	766.4	30.22	767.0	34.3	1.3	76	NNE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.07	763.8	30.13	765.2	36.3	2.4	89	SSE	17.9	8.0	.....	.....	10	.....	.....	0.551	14.0	Snowing.....	
Brönö	29.76	755.8	29.80	756.8	35.6	2.0	82	SW	18	8	.....	.....	10	.....	.....	0.378	9.6	Foggy	
Christiana	30.00	762.0	30.16	766.0	22.1	— 5.5	93	SW	2	1	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.55	750.5	29.59	751.6	26 6	— 3.0	91	SW	9	4	.....	.....	10	.....	.....	0.189	4.8	Snowing.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.19	766.7	30.40	772.1	56.1	13.4	79	ENE	.....	.....	4	.....	5	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.5	30.13	765.2	55.0	12.8	87	ENE	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.85	758.1	29.93	760.3	66.4	19.1	46	ENE	3.1	1.4	.....	.....	3	.....	.....	0.008	0.2	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.76	755.9	30.13	765.2	52.5	11.4	62	NNE	19.9	8.9	.....	.....	8	E	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.25	768.4	30.32	770.2	59.4	15.2	60	ENE	8.1	3.6	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Sea or swell: Height scale 0-9	Sea or swell: Direction form—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. d' Sande, Com'd't.
Duque da Terceira	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. Carlos Maria da Silva St. Paul de Loando	2	WSW	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.	2	NE	D. clouds.....	A.de SouzaRoza, 2ndL't
Sà da Bandeira	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, N. 0° 27′, E. 6° 45′	5	S	D. clouds, 10 minutes rain-fall.	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	1	.....	Raining, 1 hr's rain-fall.	J. G. Felgo, 2nd Lieut

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.57	751.0	29.59	751.5	21.6	— 5.8	93	WSW	18	8	.....	.....	4ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.23	767.7	30.14	765.6	25.3	— 3.7	62	SE	9	4	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.94	760.4	30.52	775.1	—10.8	—23.8	82	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.98	761.5	30.24	768.1	27.9	— 2.3	85	SW	9	4	.....	.....	10m	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	29.06	738.2	30.10	764.6	13.8	—10.1	73	WSW	27	12	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.88	758.9	30.17	766.4	15.8	— 9.0	88	S	4	2	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.07	763.6	30.08	764.1	20.3	— 6.5	63	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.40	746.8	30.08	764.0	19.6	— 6.9	70	N	20	9	.....	c;ck	9ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.72	754.8	30.23	767.9	13.3	—10.4	78	S	4	2	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Faijano w.
Lugan	29.63	752.6	29.85	758.2	15.1	— 9.4	69	WSW	18	8	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.61	752.1	30.20	767.1	19.0	— 7.2	72	NNW	7.8	3.5	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.74	704.5	30.73	780.5	— 4.7	—20.4	81	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Lunar corona..	Meteorological Obs.
Nikolaiev	30.04	762.9	30.11	764.7	22.1	— 5.5	65	N	18	8	.....	.....	7ks	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.93	760.1	30.18	766.5	25.2	— 3.8	56	NNE	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	30.07	763.8	30.09	764.2	27.5	— 2.5	92	WSW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.45	722.6	30.11	764.7	30.9	— 0.6	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.66	727.9	30.11	764.9	43.5	6.4	53	N	9	4	.....	.....	8cs	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.78	756.5	30.23	767.8	28.8	— 1.8	56	ESE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.87	758.7	30.32	770.1	26.1	— 3.3	71	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	30.16	766.1	30.49	774.5	— 8.5	—22.5	73	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.92	760.0	30.03	762.8	57.6	14.2	91	WNW	4.0	1.81	.....	.....	0	.....	.....	0	0	Clear.	Antonió Rave, Director.
Bilbao, Met. Obs'y	30.21	767.2	30.26	768.7	52.9	11.6	69	NW	2.7	1.22	.....	2	7	NW	.....	0.417	10.6	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.7	.....	.....	42.3	5.7	71	N	17.4	7.78	.....	0	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.89	708.5	30 17	766.3	49.1	9.5	49	N	13.4	6.00	.....	2	1	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.93	76 .1	30.08	763.9	63.0	17.2	42	NW	1.3	0.58	.....	3	3	NE	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.29	744.0	30.21	767.3	49.1	9.5	72	NE	11.2	5.0	.....	.....	6	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.05	763.2	30.11	764.8	71.9	22.2	60	NNE	8.1	3.6	.....	0	6k	.....	NNE	0	0	Fair.....	Benito Vines, S. J.
Manilla, Phillippine Islands	29.97	761.2	30.02	762.5	79.9	26.6	84	N	10.3	4.7	.....	.....	10m	.....	E	0.47	11.1	Raining.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.86	758.4	29.96	760.9	61.3	16.3	50	ESE	26.2	11.7	.....	0	10	.....	ESE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.01	762.3	71.6	22.0	89	SW	0	0	.....	2cs	0	E	.....	0.098	2.50	Clear.	EnriqueGades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.3	29.74	755.3	28.4	— 2.0	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.89	759.3	29.95	760.6	34.5	1.4	89	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.95	760.6	30.00	761.9	43.2	6.2	59	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	30.02	762.6	30.20	767.1	27.7	— 2.4	83	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.10	764.6	30.16	766.1	29.8	— 1.2	88	WSW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.04	763.0	30.13	765.2	25.0	— 3.9	96	WNW	11.6	5.2	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.9	30.01	762.2	40.6	4.8	75	SE	.....	.....	2	.....	10	.....	.....	0.016	0.4	Covered	The Observatory.
Zurich	28.32	719.4	30.02	762.6	35.8	2.1	96	W	.....	.....	1	.....	10	.....	.....	0.213	5.4	Covered.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.9 mm.; Thermometer, 0 Cent. Relative Humidity, +7 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	59.4	15.2	53	SW	0	0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.87	758.6	55.6	13.1	.....	S	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.21	767.4	63.1	17.3	62	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.97	761.2	29.98	761.5	14	—10.0	.....	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Chatham, N. B	29.94	760.5	30.01	762.2	16.6	— 8.4	92	N	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.86	758.4	29.90	759.4	19.2	— 7.1	97	N	9	4.0	.....	.....	10m	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.04	763.0	30.25	768.3	— 4.5	—20.3	100	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Smith, M. A.
Dalhousie, N. B	29.87	758.7	30.05	763.3	14.0	—10.0	.....	W	.....	.....	2	0	2s	.....	.....	0	0	Fair	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	13.3	—10.4	91	SW	35	15.6	.....	.....	10n	.....	.....	0.02	0.5	Light snow	J. McWilliams.
Fredericton, N. B	29.92	760.0	29.99	761.7	19.0	— 7.2	85	E	10	4.5	.....	.....	10s	.....	.....	0.15	3.8	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	28.82	726.9	29.48	748.8	18.0	— 7.8	94	N	22	9.8	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.98	736.1	30.15	765.8	22.6	— 5.6	100	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Grant.
Halifax, N. S.	29.64	752.8	29.77	756.1	24.0	— 4.4	80	NE	15	6.7	.....	.....	10n	.....	.....	0	0	Cloudy	A. Allison.
Hamilton, Ontario	29.81	757.2	30.24	767.3	22.1	— 5.5	78	N	.....	.....	1	0	0	.....	.....	0.15	3.8	Clear.	Geo. Dickson, B. A.
Heart's Content, N. F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.90	759.4	30.28	769.1	2.3	—16.5	88	NE	3	1.3	.....	2c	0	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S.	29.80	756.4	29.90	759.4	23.0	— 5.0	90	NE	8	3.6	.....	8k	0	NE	.....	0	0	Cloudy	C. H. Rigby.
Montreal, Quebec	30.04	763.0	30.27	768.8	— 3.0	—19.4	66	N	4	1.8	.....	.....	1s	.....	.....	Inap.	Inap.	Clear.	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nr son.
Norwood, Ontario	29.49	749.0	30.27	768.8	7.4	—13.7	93	SE	4	1.8	.....	4ck	0	NW	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.37	746.0	30.12	765.0	15.6	— 9.1	74	E	15	6.7	.....	5k	5ks	W	.....	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.42	747.2	30.19	766.8	13.6	—10.2	72	NW	.....	.....	1	0	6ks	.....	.....	0	0	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.43	747.5	30.16	766.1	27.0	— 2.8	70	S	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear.	H. Morgan.
Port Stanley, Ontario	29.45	748.0	30.13	765.3	29.4	— 1.4	86	SE	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	M. Payne.
Quebec, Quebec	29.83	757.7	30.20	767.1	— 2.5	—19.2	83	W	.....	.....	1	.....	10n	.....	.....	0.40	10.2	Light snow.	Capt. Ashe, R. N.
Rockliffe, Ontario	29.75	755.6	30.29	769.4	—11.7	—24.3	81	E	4	1.8	.....	.....	Haze	.....	.....	0	0	Hazy	W. H. McIntyre.
St. John, N. B	29.68	753.9	29.86	758.4	20	— 6.7	100	NE	17	7.6	.....	.....	10n	.....	.....	0.42	10.7	Snowing	G. Murdock, C. E.
Saugeen, Ontario	29.29	744.0	30.05	763.3	24.0	— 4.4	90	S	22	9.8	.....	1k	0	.....	.....	0	0	Clear	Mrs. K. Stewart.
Stratford, Ontario	28.78	731.0	30.16	766.1	18.0	— 7.8	92	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
Sydney, C. B	29.86	758.4	29.90	759.4	19.0	— 7.2	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	T. C. Hill, C. E.
Toronto, Ontario	29.80	756.9	30.24	768.1	24.3	— 4.3	69	SE	9	4.0	.....	0	5ks	.....	.....	Inap.	Inap.	Fair	Magnetic Observatory
Windsor, N. S.	29.72	754.9	29.82	757.4	23.5	— 4.7	93	NE	15	6.7	.....	.....	10ks	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	29.08	737.3	30.18	766.6	18.7	— 7.4	92	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	Professor Wolverton.
Yarmouth, N. S.	29.62	752.8	29.69	754.1	24.3	— 4.3	81	NE	17	7.6	.....	.....	10n	.....	.....	0.92	23.4	Cloudy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.73	755.1	29.99	761.7	27	— 2.8	100	E	.....	.....	.....	.....	Fog	.....	.....	1.00	25.4	Overcast	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	29.88	758.9	24.8	— 4.0	.....	N	.....	.....	3	.....	.....	.....	.....	0	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.97	761.2	30.22	767.6	12	—11.1	61	N	16	7.2		0	0			0.15	3.8	Clear.	
Alpena, Michigan	29.28	742.4	29.90	759.4	30	— 1.1	78	S	18	8.0		0	0			0	0	Clear	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	29.01	736.8	30.19	766.8	45	7.2	31	E	9	4.0		2c	0	Calm		0	0	Clear	
Atlantic City, New Jersey	30.17	766.3	30.19	766 8	27	— 2.8	64	NW	15	6.7		0	0			0	0	Clear.	
Augusta, Georgia	30.06	763.5	30.27	768.8	41	5.0	82	Calm	0	0		1c	0	Calm		0	0	Clear.	
Baltimore, Maryland	30.20	767.1	30.25	768.3	33	0.6	42	NW	4	1.8		0	0			0	0	Clear.	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	26	— 3.3	75	NW	14	5 3		0	0			Inap.	Inap.	Clear.	
Bismarck, Dakota	27.57	700.3	29.43	747.5	38	3.3	71	NW	10	4.5			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.46	722.9	29.74	755.4	64	17.8	100	S	10	4.5			10ks		S	0	0	Cloudy	
Boise City, Idaho	27.09	688.1	30.05	763.3	32	0.0	89	Calm	0	0			10n		Calm	0.14	3.6	Light snow	
Boston, Massachusetts	29.82	757.4	29.98	761.5	19	— 7.2	69	NW	24	10.7		0	0			0.37	9.4	Clear.	
Brackettville, Texas	28.69	728.7	29.72	754.9	65	18.3	94	E	12	5.4			10s		E	Inap.	Inap.	Threatening	
Breckenridge, Minnesota	28.32	719.3	29.30	744.2	34	1.1	79	SE	7	3.1			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.90	759.4	29.95	760.7	73	22.8	81	SE	16	7.2		0	8s		SE	0	0	Fair	
Buffalo, New York	29.43	747.5	30.18	766.6	23	— 5.0	60	SE	4	1.8		0	Haze		Calm	Inap.	Inap	Clear.	
Burkes, Arizona																			
Burlington, Vermont	29.95	760.7	30.28	769.1	2	—16.7	72	NE	14	6.3		0	0			Inap.	Inap.	Clear.	
Cairo, Illinois	29.70	754.4	30.10	764.5	47	8.3	55	SE	6	2.7		2ck	2s	W	Calm	0	0	Fair	
Campo, California	27.44	697.0	30.01	762.2	39	3.9	91	W	1	0.4			10s		Calm	0.01	0.3	Cloudy	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	41	5.0	57	NE	24	10.7		0	0			0	0	Clear.	
Cape Henry, Virginia	30.22	767.6	30.23	767.8	40	4.4	48	N	32	14.3		0	Haze		Calm	0	0	Clear.	
Cape Lookout, N. Carolina	30.22	767.6	30.24	768.1	42	5.6	74	NE	13	5.8		0	0			0	0	Clear.	
Cape May, New Jersey	30.18	766.6	30.21	767.3	31	— 0.6	60	N	30	13.4		0	0			0	0	Clear.	
Castroville, Texas	29.12	739.6	29.80	756.9	66	18.9	89	S	8	3.6			10s		Calm	0	0	Cloudy	
Cedar Keys, Florida	30.15	765.8	30.17	766.3	57	13.9	69	NE	5	2.2		1cs	0	Calm			0	Clear.	
Charleston, South Carolina	30.15	765.8	30.20	767.1	49	9.4	57	NE	9	4.0		0	0			0	0	Clear.	
Charlotte, North Carolina	29.39	746.5	30.18	766.6	43	6.1	43	NE	2	0.9		0	Sm'e		Calm	0	0	Clear.	
Chattanooga, Tennessee	29.38	746.2	30.22	767.6	37	2.8	71	Calm	0	0		5cs	Sm'e	Calm	Calm	0	0	Fair	
Cheyenne, Wyoming	23.71	602.2	29.65	753.1	29	— 1.7	56	NW	20	8.9		0	0			0	0	Clear	
Chicago, Illinois	29.18	741.1	29.87	758.7	43	6.1	51	SW	15	6.7		0	2s		S	0	0	Clear	
Cincinnati, Ohio	29.50	749.3	30.17	766.3	37	2.8	68	SE	3	1.3		5c	Sm'e	Calm	Calm	0	0	Fair	
Cleveland, Ohio	29.38	746.2	30.14	765.5	30	— 1.1	68	SE	8	3.6		0	0			0	0	Clear.	
Coleman City, Texas	28.07	713.0	30.68	779.3	68	17.2	89	S	12	5.4			10s		S	0	0	Cloudy	
Columbus, Ohio	29.28	743.7	30.15	765.8	34	1.1	61	S	6	2.7		0	Fog		Calm	0	0	Clear.	
Concho, Texas	27.90	708.6	29.51	749.5	67	19.4	89	SE			4		10ks		Calm	0	0	Cloudy	
Corsicana, Texas	29.44	747.8	29.90	759.4	65	18.3	89	S	12	5.4			10ks				0	Cloudy	
Davenport, Iowa	29.13	739.9	29.76	755.9	45	7.2	61	S	14	6.3			10s		W		0	Cloudy	
Dayton, Washington T'y					35	1.7	90	SW			1	10k	0	W		0.25	6.3	Cloudy	
Deadwood, Dakota	24.93	633.2			35	1.7	45	SW	12	5.4		0	0			0	0	Clear.	
Decatur, Texas	28.70	729.0	29.84	757.9	64	17.8	73		8	3.6			10s		S	0	0	Cloudy	
Delaware Breakwater, Del	30.10	766.8	30.21	767.3	34	1.1	61	NW	28	12.5		0	0			0	0	Clear.	
Denison, Texas	29.08	738.6	29.85	758.2	64	17.8	89	SE	10	4.5			10ks		SE	0	0	Cloudy	
Denver, Colorado	24.44	620.8	29.66	753.4	40	4.4	25	W	11	4.9		0	0			0	0	Clear.	
Des Moines, Iowa	28.70	729.0	29.55	750.6	54	12.2	49	SW	14	6.3			10s		W	0	0	Cloudy	
Detroit, Michigan	29.36	745.7	30.06	763.6	30	— 1.1	78	SW	4	1.8		0	0			0	0	Clear.	
Dodge City, Kansas	27.11	688.6	29.32	744.7	52	11.1	86	SE	11	4.9		10ck	0	Calm		0	0	Cloudy	
Dubuque, Iowa	29.02	737.1	29.71	754.6	42	5.6	83	SE	8	3.6			10n		SE	0.02	0.5	Light rain	
Duluth, Minnesota	28.78	731.0	29.48	748.8	22	— 5.6	72	Calm	0	0		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.04	737.6	29.74	755.4	69	20.6	80	SE	10	4.5			10s		SE	0	0	Cloudy	
Eastport, Maine	29.76	755.9	29.83	757.7	21	— 6.1	100	NE	25	11.2			10n			0.54	13.7	Light snow	
Edinburg, Texas																			
El Paso, Texas					75	23.9	81	S			4		10s		S	0	0	Cloudy	
Erie, Pennsylvania	29.43	747.5	30.18	766.6	27	— 2.8	76	S	10	4.5		0	0			0.02	0.5	Clear.	
Escanaba, Michigan	29.00	736.6	29.66	753.4	28	— 2.2	66	S	8	3.6		2c	5s	SW	S	0	0	Fair	
Florence, Arizona	28.51	724.1	30.11	764.8	36	2.2	90	Calm	0	0		2cs	0	Calm		0	0	Fair	
Fort Apache, New Mexico	24.95	633.7	30.40	772.1	33	0.6	100	Calm	0	0			Fog		Calm	0	0	Dense fog	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.43	696.7	29.26	743.2	30	— 1.1	78	NW	6	2.7		5cs	0	NW		0	0	Fair	
Fort Custer, Montana	26.52	673.6			37	2.8	80	SW	18	8.0			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.05	636.3	30.01	762.2	44	6.7	76	E	1	0.4		1ck	0	S		0	0	Clear.	
Fort Gibson, Indian Ter	29.32	744.7	29.84	757.9	59	15.0	59	SE	8	3.6			10s		S	0	0	Cloudy	
Fort Grant, Arizona	25.11	637.8	29.91	759.7	38	3.3	91	S	3	1.3			10s		Calm	0.16	4.1	Cloudy	
Fort Griffin, Texas	28.50	723 9	29.72	754.9	64	17.8	83	S	12	5.4		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	26.85	682.0			38	3.3	71	SW	16	7.2			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.59	700.8	29.44	747.8	62	16.7	88	S	15	6.7			10s		S	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.59	726 2	29.66	753.4	60	15.6	88	SE	10	4.5			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	27.54	699.5			32	0.0	79	SE	6	2.7		2ck	0	SE		0	0	Fair	
Fort Verde, Arizona					27	— 2.8	76	NW			2	5cs	0	W		0	0	Fair	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.16	715.3	29.72	754 9	52	11.1	41	S	14	6.3			10ks		S	0	0	Cloudy	
Galveston, Texas	29.98	761.5	30.02	762.5	64	17.8	94	S	9	4.0		0	2ks		S	0	0	Clear.	
Grand Haven, Michigan	29.22	742.2	29.87	758.7	42	5.6	66	SE	18	8.0		10k	0	W		0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.86	733.0	29.77	756.1	63	17.2	89	S	11	4.9			10s		SW	0	0	Cloudy	
Indianapolis, Indiana	29.26	743.2	30.06	763.5	38	3.3	63	SE	4	1.8		0	2s		Calm	0	0	Clear.	
Indianola, Texas	29.98	761.5	30.01	762.2	66	18.9	95	S	9	4.0		0	5s		S	0	0	Fair	
Jacksboro, Texas	28.63	727.2	29.73	755.1	60	15.6	82	SE	12	5.4		5ck	0	Calm		0	0	Fair	
Jacksonville, Florida	30.13	765.3	30.16	766.1	53	11.7	61	NW	4	1.8		2cs	0	Calm		0	0	Clear.	
Keokuk, Iowa	29.10	735.1	29.71	754.6	49	9.4	57	S	7	3.1			10s		SW	0	0	Cloudy	
Key West, Florida	30.10	764.5	30.14	765.5	69	20.6	70	NE	15	6.7		2k	0	NE		0	0	Fair	
Kittyhawk, North Carolina	30.20	767.1	30.22	767.6	41	5.0	57	NE	38	17.0		0	0			0	0	Clear	
Knoxville, Tennessee	29.17	740.9	30.22	767.6	33	0.6	75	NE	1	0.4		10cs	Fog	NW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	28.86	733.0	29.58	751.3	45	7.2	68	S	16	7.2			10n		Calm	Inap.	Inap.	Light rain	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	46	7.8	69	NW	1	0.4			10s		Calm	0	0	Cloudy	
Laredo, Texas	29.05	738 1	29.99	761.7	61	16.1	66	SE	10	4.5		2k	0	NW		0	0	Clear.	
Leavenworth, Kansas	28.82	732.0	29.63	752.6	57	13.9	63	S	21	9.4			10s			0	0	Cloudy	
Lewiston, Idaho					35	1.7	100	W	1	0.4			10n		Calm	0.05	1.3	Raining	
Little Rock, Arkansas	29.68	753.9	30.04	763.0	51	10.6	79	E	2	0.9		8c	0	W		0	0	Fair	
Los Angeles, California	29.82	757.4	30.17	766.3	42.6	5.8	83	N	5	2.2		0	1s		Calm	0.14	3.6	Clear.	
Louisville, Kentucky	29.52	749.8	30.10	764.5	40	4.4	65	SE	4	1.8		5ck;cs	0	Calm		0	0	Fair	
Lynchburg, Virginia	29.56	750.8	30.28	769.1	37	2.9	71	W	1	0.4		0	0			0	0	Clear.	
Madison, Wisconsin	28.67	728.2	29.66	753.4	43	6.1	59	S	24	10.7			10s		S	0.08	2.0	Cloudy	
Marquette, Michigan	28.85	732.8	29.55	750.6	32	0.0	69	SW	24	10.7		5c	0	W		0	0	Fair	
Mason, Texas	28.20	716.3	29.89	759.2	65	18.3	89	SE	14	6.3			10s		SE	0	0	Cloudy	
Memphis, Tennessee	29.74	755.4	30.08	764.0	51	10.6	49	SE	7	3.1		5cs	Sm'e	Calm		0	0	Fair	

UNITED STATES SERIES -CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Milwaukee, Wisconsin	29.04	737.6	29.76	755.9	42	5.6	58	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.11	764.8	30.16	766.1	68	11.7	93	N	1	0.4	.....	2c	Fog	Calm	Calm	0	0	Fair	
Montgomery, Alabama	29.97	761.2	30.21	767.3	44	6.7	84	N	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
Morgantown, West Virginia	29.17	740.9	30.21	767.3	32	0.0	69	Calm	0	0	.....	.....	0	.....	.....	0.02	0.5	Clear	
Mt. Washington, N. H.	23.41	594.6	29.77	756.1	0	—17.8	69	NE	30	13.4	.....	.....	2ks	.....	NE	0.44	10.2	Clear	
Nashville, Tennessee	29.62	752.3	30.18	766.6	36	3.3	81	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
New Haven, Connecticut	29.99	761.7	30.12	765.0	19	— 7.2	69	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.98	761.5	30.04	763.0	22	— 5.6	58	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	60	15.6	82	SW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.91	759.7	29.96	761.0	23	— 5.0	60	NW	20	8.9	.....	0	0	.....	.....	0.32	8.1	Clear	
New River, North Carolina	.....	.....	.....	.....	36	2.2	61	N	.....	.....	1	0	0	.....	.....	.....	.....	Clear	
New York, New York	29.96	761.0	30.16	766.1	23	— 5.0	73	NW	14	6.3	.....	0	Haze	.....	Calm	0.06	1.5	Clear	
Norfolk, Virginia	30.16	766.1	30.22	767.6	37	2.8	63	NE	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
North Platte, Nebraska	26.70	678.2	29.27	743.4	34	1.1	65	W	13	5.8	.....	10c	0	W	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.96	761.0	30.00	762.0	36.0	3.3	86	S	5	2.2	.....	5k	0	W	.....	0.02	0.5	Fair	
Omaha, Nebraska	28.37	720.6	29.42	747.3	53	11.7	80	S	18	7.2	.....	.....	10s	.....	SW	0	0	Threatening	
Oswego, New York	29.92	760.0	30.27	768.8	16	— 8.9	66	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.39	721.1	29.24	742.7	22	— 5.6	100	Calm	0	0	.....	.....	5s	.....	Calm	0	0	Fair	
Pensacola, Florida	30.17	766.3	30.20	767.1	55	12.8	74	SW	5	2.2	.....	5cs	0	NW	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.15	765.8	30.21	767.3	29	— 1.7	67	NW	16	7.2	.....	0	1s;hz	.....	Calm	Inap.	Inap.	Clear	
Phœnix, Arizona	28.83	732.3	30.70	779.8	40	4.4	65	SE	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	17.31	439.7	29.52	749.8	4	—15.6	74	W	16	7.2	.....	5cs	1s	Calm	SW	0.02	0.5	Fair	
Pilot Point, Texas	29.35	745.5	30.20	767.1	46	7.2	60	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	23.92	607.3	29.68	753.9	21	— 9.4	71	W	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Pittsburg, Pennsylvania	29.36	745.5	30.22	767.6	30	— 1.1	78	SE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
Port Huron, Michigan	29.37	746.0	30.07	763.8	29	— 1.7	78	S	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Portland, Maine	29.86	758.4	29.91	759.7	22	— 5.6	72	NW	13	5.8	.....	0	5s	.....	Calm	1.05	26.7	Fair	
Portland, Oregon	30.01	762.2	30.09	764.3	40	4.4	91	W	4	1.8	.....	0	8ks	.....	SW	0.31	7.9	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	43	6.1	59	NE	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.66	626.4	30.02	762.5	24	— 4.4	87	S	2	0.9	.....	1cs	0	S	.....	0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	60	15.6	88	N	4	1.8	.....	1c	0	NW	.....	0	0	Clear	
Red Bluff, California	29.83	757.7	30.20	767.1	43	6.1	96	Calm	0	0	.....	.....	10n	.....	.....	0.35	8.9	Light rain	
Rio Grande City, Texas	29.70	754.4	29.92	760.0	68	20.0	90	SE	10	4.5	.....	0	8s	.....	SE	0	0	Fair	
Rochester, New York	29.55	750.6	30.21	767.3	19	— 7.2	69	E	9	4.0	.....	2k	2s	NW	Calm	0.01	0.3	Fair	
Roseburg, Oregon	29.52	749.8	30.11	764.8	40.5	4.7	90	SE	2	0.9	.....	6c;k	0	W;Calm	.....	0.33	8.4	Fair	
Sacramento, California	30.11	764.8	30.19	766.8	45	7.2	92	Calm	0	0	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
St. Louis, Missouri	29.36	745.7	29.94	760.5	45	7.2	46	S	12	5.4	.....	8k	0	W	.....	0	0	Fair	
St. Paul, Minnesota	28.62	726.9	29.43	747.5	30	3.9	71	SE	10	4.5	.....	10cs	0	W	.....	0	0	Cloudy	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	30	— 1.1	68	Calm	0	0	.....	.....	10ks	.....	S	0.18	4.6	Cloudy	
San Antonio, Texas	29.24	742.7	29.81	757.2	66	18.9	89	S	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.10	764.5	30.18	766.6	48	8.9	85	E	2	0.9	.....	.....	10s	.....	NW	0.07	1.8	Cloudy	
Sandusky, Ohio	29.40	746.7	30.10	764.5	37	2.8	63	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	25	— 3.9	62	NW	22	9.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Francisco, California	30.12	765.0	30.19	766.8	48	8.9	93	SE	4	1.8	.....	.....	10s;fg	.....	Calm	0.01	0.3	Cloudy	
Santa Fé, New Mexico	23.18	588.8	29.72	754.9	19	— 7.2	69	SE	1	0.4	.....	.....	10s	.....	SE	0.39	9.9	Cloudy	
Savannah, Georgia	30.13	765.3	30.23	767.8	49	9.4	64	N	5	2.2	.....	1c	Sm'e	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.76	755.9	29.98	761.5	59	15.0	94	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.22	767.6	30.26	768.6	41	5.0	74	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Socorro, New Mexico	25.23	640.8	29.30	744.2	43	6.1	67	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Springfield, Illinois	29.27	743.4	29.94	760.5	44	6.7	64	S	19	8.5	.....	.....	10s;ks	.....	W	0	0	Cloudy	
Springfield, Massachusetts	29.95	760.7	30.09	764.3	20	— 6.7	66	NW	9	4.0	.....	0	0	.....	.....	0.16	4.1	Clear	
Stockton, Texas	26.81	681.0	29.81	757.2	51	10.6	28	SE	4	1.8	.....	.....	10ks	.....	E	0	0	Cloudy	
Thatcher's Island, Mass.	29.89	759.2	29.94	760.5	22	— 5.6	72	NW	31	13.9	.....	2k	5s	NW	NW	0.11	2.8	Fair	
Toledo, Ohio	29.37	746.0	30.08	764.0	34	1.1	70	S	4	1.8	.....	8c	0	W	.....	Inap.	Inap.	Fair	
Tucson, Arizona	27.50	698.5	30.05	763.3	45	7.2	84	Calm	0	0	.....	2c	2s	S	S	0	0	Fair	
Umatilla, Oregon	29.61	752.1	30.11	764.8	35	1.7	95	E	7	3.1	.....	0	1s	.....	Calm	0.13	3.3	Clear	
Uvalde, Texas	28.98	736.1	29.78	756.4	68	20.0	84	E	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.83	757.7	30.09	764.3	55	12.8	68	SE	11	4.9	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	23.65	600.3	29.43	747.5	27	— 2.8	76	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Visalia, California	29.76	755.9	3.14	765.5	37.5	3.1	90	E	2	0.9	.....	2k	0	Calm	.....	0.11	2.8	Fair	
Washington, D. C.	30.15	765.8	30.27	768.8	32	0.0	69	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	77	NW	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, North Carolina	30.17	766.3	30.26	768.6	41	5.0	57	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.67	649.5	29.98	760.2	30	— 1.1	78	SW	9	4.0	.....	.....	10n	.....	Calm	0.23	5.8	Light snow	
Wood's Holl, Massachusetts	29.90	759.4	29.94	760.5	24	— 4.4	74	NW	32	14.3	.....	0	0	.....	.....	0.11	2.8	Clear	
Yankton, Dakota	28.17	715.5	29.43	747.5	42	5.6	66	W	1	0.4	.....	5c	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.91	759.7	30.06	763.5	47	8.3	55	W	4	1.8	.....	2k	0	W	.....	0	0	Fair	
SUB-SERIES.																			
Bogota, U. S. Colombia	22.01	559.0	.....	.....	60.0	15.6	66	E	.....	.....	1	7k	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	73	22.8	63	N	7.2	3.2	.....	0	8ks	.....	N	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	86	Calm	0	0	.....	2c	2s	Calm	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.93	760.2	30.01	762.2	77	25.0	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	76	24.4	91	E	.....	.....	3	.....	8ks	E	.....	0.180	4.57	Cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.45	748.0	30.00	762.0	78	25.6	80	N	.....	.....	3	.....	10s	.....	.....	0.08	2.0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.31	769.9	30.36	771.1	—33.0	—36.1	.....	N	10	4.5	.....	.....	9s	.....	N	0.18	4.6	Cloudy	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.4 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt. Washington, 6,286 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.9 mm.; Santa Fé, 6.54 in., or 166.1 mm; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.13‡	765.3‡	.....	.....	56	13.3	87	NE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H.	29.95‡	760.7‡	.....	.....	24	— 4.4	87	NNW	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.25‡	768.3‡	.....	.....	40.6	4.8	65	NE	.....	.....	1	ck	8k	.....	W	0	0	.....	.....	Cloudy	
Adams, N. 13° 30′, W. 91° 39′	29.96‡	761.0‡	.....	.....	79	26.1	82	NE	.....	.....	2	.....	2	.....	N	.....	.....	Long	NW	Fair	
Colorado, New York, N. Y.	30.12‡	765.0‡	.....	.....	26	— 3.3	.....	NW	17.9	8.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Constitution, As inwall, Panama	30.00‡	762.0‡	.....	.....	74	23.3	81	NW	.....	.....	3	.....	6	.....	NNE	.....	.....	Smooth	NNE	Fair	
Enterprise, Naples, Italy	29.91‡	759.7‡	.....	.....	56	13.3	63	WSW	.....	.....	5	.....	6	.....	WSW	.....	.....	Smooth	.....	Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	30.21‡	767.3‡	.....	.....	40	4.4	56	N	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Independence, Mare I'd, Navy Yard, Cal.	30.16‡	766.1‡	.....	.....	46	7.8	92	Calm	0	0	.....	.....	0	.....	.....	0.088	0.96	.....	.....	Clear	
Kearsarge, Boca del Toro, Chiriqui	30.03‡	762.7‡	.....	.....	75	23.9	86	Var.	.....	.....	2	.....	5	.....	S	.....	.....	Smooth	.....	Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.17‡	766.3‡	.....	.....	50	10.0	100	E	.....	.....	0	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Marion, S. 34° 56′, W. 55° 55′	.....	.....	.....	.....	.....	.....	.....	SE	.....	.....	3–4	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Michigan, Erie, Pa.	30.20‡	767.1‡	.....	.....	21	— 6.1	71	S	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Minnesota, New London, Conn	30.01‡	762.2‡	.....	.....	24	— 4.4	.....	NNW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Shanghai, China.	30.44‡	773.2‡	.....	.....	40	4.4	73	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.17‡	766.3‡	.....	.....	52	11.1	60	NNE	12	5.4	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.	
Nipsic, N. 26° 15′, W. 65° 55′	30.03‡	762.7‡	.....	.....	70	21.1	66	NW	.....	.....	3	.....	2	.....	.....	.....	.....	Light	NW	D. clouds	
Onward, Callao, Peru	29.87‡	758.7‡	.....	.....	68	20.0	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Long	W	Hazy.	
Palos, Tientsin, China.	30.42‡	772.7‡	.....	.....	34	1.1	??	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Passaic, Washington, D. C.	30.25‡	768.3‡	.....	.....	33	0.6	79	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, N. 6° 54′, W. 78° 43′	29.90‡	759.4‡	.....	.....	74	23.3	68	NNW	.....	.....	4	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	
Powhatan, Norfolk, Va.	30.20‡	767.1‡	.....	.....	39	3.9	64	N	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Quinnebaug, Leghorn, Italy	29.75‡	755.6‡	.....	.....	52	11.1	73	Calm	.....	.....	0	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Richmond, Hong-Kong, China.	30.18‡	766.0‡	.....	.....	56	13.3	100	E	.....	.....	1–2	.....	10	.....	SSE	0.11	2.8	Smoot	.....	Overcast	
Rio Bravo, Brownsville, Texas	30.07‡	763.8‡	.....	.....	68	20.0	100	SSE	3	1.3	.....	.....	10	.....	SSE	0	0	.....	.....	Cloudy	
Santee, Annapolis, Md	30.25‡	768.3‡	.....	.....	35	1.7	80	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
Shenandoah, Montevideo, Uruguay	30.15‡	765.8‡	.....	.....	69	20.6	70	ESE	.....	.....	2	.....	2	.....	ESE	.....	.....	Mod'ate	ESE	Fair	
St. Louis, League Island, Pa.	30.19‡	766.8‡	.....	.....	27	— 2.8	.....	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Swatara, N. 37° 25′, E. 3° 08′	30.07‡	763.8‡	.....	.....	58	14.4	70	NNW	.....	.....	4	.....	2	.....	Calm	.....	.....	Mod'ate	N	Clear	
Tennessee, Norfolk, Va.	30.24‡	768.1‡	.....	.....	40	4.4	56	N	3	1.3	.....	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Trenton, Toulon, France	29.79‡	756.7‡	.....	.....	66	18.9	36	NW	.....	.....	5	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	30.00‡	762.0‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡	.....	.....	24	— 4.4	87	NW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Wabash, Boston, Mass.	30.04‡	763.0‡	.....	.....	19	— 7.2	69	NW	19	8.5	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wachusett, Montevideo, Uruguay	30.62‡	777.7‡	.....	.....	67	19.4	64	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	E	Fair	
Wyoming, Naples, Italy	29.84‡	757.9‡	.....	.....	56	13.3	87	WSW	.....	.....	2–4	.....	2	.....	W	.....	.....	Smooth	W	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10, weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer.																			
S. S. Moravian, J. Graham, N. 50° 20', W. 35° 07'	30.40‡	772.1‡	47	8.3	100	SW			6		10		WSW	0	0	Rough	W	Cloudy.	John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton Halifax, N. S	29.85‡	758.2‡				NE			6		5		NE			Heavy	NE	Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	30.31‡	769.9‡	51	10.6	93	W			4		9		W	0	0			Cloudy.	
S. S. Ohio, Henry Morrison. N. 47° 22', W. 38° 22'...†*	30.39‡	771.0‡	53	11.7		WSW			4		8		WSW	0	0	Mod'ate	SW	Cloudy	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 44° 27', W. 50° 34'	29.87‡	758.7‡	35.5	1.9	97	NW			3		10		NW	1 h'r	1 h'r	Mod'ate	S	Foggy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	30.17‡	766.3‡	56	13.3	81	NW			3		8		NW					Light rain	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.	29.92‡	760.0‡				SE			3		8		SE	Light	Light	Smooth		Drizzling	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 35° 10', W. 120° 50'	30.22‡	767.6‡	54	12.2		E			2		0			0	0			Clear.	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Punta Arenas, Costa Rica†	29 97‡	761 2‡	78	25.6	91	E	.....	.....	1	.....	0	.....	.....	0	0	Smooth	ENE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann....	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Polemann.
S. S. City of Panama, M. Connolly, Panama.....†	29.91‡	759.7‡	73	22.8	.....	NW	.....	.....	1	.....	2	.....	NW	0	0	Smooth	.....	Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. LeSack.
S. S. Colima, R. R. Searle, N. 24° 42′, W. 112° 50′†....	30.05‡	763.3‡	66	18.9	94	NW	.....	.....	4	.....	9	.....	ENE	0	0	Smooth	NW	D. clouds.....	.....
S. S. Dakota, D. E. Griffiths Port Townsend, Washington Ty.†	29.94‡	760.5‡	41	5.0	.....	W	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Z alandia, R. C. Ghest, N. 21° 20′, W. 158° 16′.....	29 95‡	760.7‡	.....	.....	.....	E	.....	.....	5	.....	.....	.....	E	.....	.....	Mod'ate	NE	Squally	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 44° 56′, W. 40° 12′...†..	30.36‡	771.1‡	55	12.8	.....	SSE	5	2.2	.....	.....	5	.....	S	0	0	Mod'ate	SW	Fine.....	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,.... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	...	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Addie Fuller, J. Jorgensen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 39° 34′, E. 129° 23′..... *	29.99‡	761.7‡	68	20.0	.....	N	.....	.....	2	.....	10	.....	N	.....	.....	Short	ENE	Misty.....	B. F. Woodbury.
Brigantine George, W. H. Champlin,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Cross, W. Randall, N. 17° 06′, W. 34° 40′.....	30.11‡	764.8‡	69	20.6	95	NNE	.....	.....	3–5	.....	6	.....	NNE	Slight	Slight	Mod'ate	N	Showery	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
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NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 25, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Wratuer.	Observer.
Mogador, Marocco	.....	.....	30.00	762.1	.....	.....	.....	SW	.....	.....	.....	.....	4	.....	.....	0.	0	Cloudy	
Nemours	.....	.....	30.01	762.3	59.7	15.4	82	E	.....	.....	4	.....	9	.....	.....	0	0	Covered	Kesxuche.
Algiers	.....	.....	30.04	763.1	58.5	18.6	57	E	.....	.....	6	.....	10	.....	.....	0	0	Covered	Tourtiliere.
La Calle	.....	.....	30.13	765.4	56.3	13.5	66	NE	.....	.....	5	.....	6	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	30.19	766.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau
Saida	.....	.....	29.95	760.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.12	765.0	56.3	13.5	38	S	.....	.....	1	.....	9	.....	.....	Inap.	Inap.	Covered	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	30.08	764.1	63.0	17.2	5	NE	.....	.....	3	.....	8	.....	.....	Inap.	Inap.	Very cloudy	Bertrand.
Biskra	.....	.....	30.10	764.6	63.0	17.2	66	WNW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.65	753.2	30.23	767.9	34.5	1.4	93	E	.....	.....	3	.....	10	.....	.....	0.079	2.0	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.47	748.6	30.30	769.6	23.4	— 4.8	88	WSW	5.8	2.6	.....	.....	3	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	29.22	742.3	30.16	766.0	30.2	— 1.0	61	Calm	.....	.....	0	.....	3cs;s	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.92	734.5	30.23	767.7	35.2	1.3	82	SE	.....	.....	2	.....	10	.....	.....	1.197	30.4	.....	Andreas Rospini.
Hermannstadt	28 63	727.2	30.11	764.9	34.8	1.8	85	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.89	733.9	30.31	769.8	33.6	0.9	87	W	.....	.....	2	.....	10	.....	.....	0.445	11.3	.....	The Staff.
Lemberg	29.13	740.0	30.19	766.8	25.8	— 3.7	71	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.01	762.2	30.13	765.2	48.6	9.2	53	E	.....	.....	3	.....	8	.....	.....	0.039	1.0	.....	I.R.Hydrographic Office.
Szathmar	29.67	753.5	30.15	765.8	37.8	3.2	80	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.79	756.7	30.09	764.2	33.1	0.6	89	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.05	763.2	30.15	765.8	48.0	8.9	59	ENE	.....	.....	2	.....	7	.....	.....	0	0	.....	P. Busin.
Vienna	29.49	749.1	30.25	768.3	35.6	2.0	98	NNW	.....	.....	3	.....	6	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Treiste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	30.23	767.8	30.44	773.2	32.2	0.1	83	NNE	.....	.....	0	.....	10	.....	W	Inap.	Inap.	.....	Royal Observatory.
Furnes	30.42	772.6	30.44	773.2	45.0	7.2	72	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.32	770.2	30.46	773.4	32.5	0.3	.....	W	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.84	757.9	29.94	760.5	50.5	10.3		SW	19	8.5			6			0.030	0.76	D. clouds	W. Boswell.
Ardrossan	30.16	766.6	30.20	767.1	43	6.1		SW			5		7					Drizzling	G.Carrick.
Armagh, (Observatory)	30.09	764.3	30.33	770.4	45.9	7.7		WSW	14	6.3			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			30.34	770.6	44.8	7.1		WSW	31	13.9			10					Overcast	John Hartnup.
Bolton (Sharples)	29.77	756.1	30.30	769.6	42.2	5.7		WSW	18	8.0			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.26	768.6	44.6	7.0	81	NE			4		10			0	0	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.93	760.2	29.96	761.0	78	25.6		NE			2		6					Gloomy	Pyt.G.Surgener, A.H.C
Cambridge (Observatory)	30.28	769.1	30.37	771.4	47.9	8.8		SW			1		7					D. clouds	H. Todd.
Cardington			30.35	770.9	47.0	8.3		W			0-1		8					Overcast	John McLaren.
Chatham (School M. E.)	30.25	768.3	30.38	771.6	52.1	11.2		SW			0		8k					Misty	Lance Corp'l Hooker, R. E.
Donaghadee	30.25	768.3	30.30	769.6	47	8.3		WNW			4		10					Gloomy	J. Mac Gowan.
Dover	30.40	772.1	30.43	772.9	41	5.0		WSW			2		1					¼ clouded	J. Costello.
Falmouth (Observatory)	30.29	769.4	30.53	775.4	45.3	7.4		NNW			1		1					Foggy	The Staff.
Fort Napier, Natal	27.68	703.1	29.90	759.4	88.4	31.3		NE			1		3					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.69	754.1	29.92	760.0	83	28.3		N			0		3k						
Galway (Queen's College)			30.36	771.1	46	7.8		WSW			2		10					Overcast	M J. O'Donaghue.
Gibraltar, Mediterranean. §	29.90	759.4	29.95	760.7	54.2	12.3		E			5		10					Raining	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.93	760.2	30.13	765.3	46.2	7.9		SW			6		10k					Gloomy	D. G. Maclean.
Great Yarmouth	30.34	770.6	30.36	770.9	43	6.1		WSW			3		4					Foggy	G. T. Watson.
Greenwich (Royal Obs'y)	30.24	768.1	30.42	772.7	45.9	7.7		WSW					4					Solar halo	The Staff, for G.B.Airy.
Guernsey	30.26	768.6	30.48	774.2	43.5	6.4		NE			2		3					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.61	777.5	30.73	780.5	48	8.9		NE			2	2ck				0	0	Fine	M. P. Moyle.
Holyhead	30.32	770.1	30.39	771.9	46	7.8		SW			3		4					D. clouds	John Tilston.
Jersey	30.21	767.3	30.52	775.2	41.9	5.5		ENE			2		6					D. clouds	J. Fisher.
Kew (Observatory)	30.39	771.9	30.42	772.7	44.2	6.8		WSW	11	4.9			6					Misty	The Met'g'l Office.
Leicester (Museum)	30.08	764.0	30.35	770.9	46.5	8.1		SW			2		10					Overcast	Wm.J.Harrison, F.G.S
Malta, Mediterranean	30.02	762.5	30.10	764.5	59.8	15.4		W			3		2k					Blue sky	A. King.
Nairn	29.80	756.9	29.89	759.2	50	10.0		WNW			4		8					¾ clouded	W. D. Penny.
Nassau, Bahamas			30.14	765.5	71.5	21.9		NE					4					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	30.16	766.1	30.36	771.1	46.2	7.9		WSW			3		10k		WSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.84	757.9	30.38	771.6	46.0	7.8		SW			3		10					Overcast	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	30.18	766.6	30.43	772.9	47	8.3		WSW			1		7					D. clouds	The Saff, for E. J. Stone, Esq
Plymouth	30.41	772.4	30.49	774.4	45.2	7.3		NW			1		0					Misty	John Merrifield.
*Roche's Point	30.44	773.2	30.53	775.4	47	8.3		W			3		5					½ clouded	Wm. Kennedy.
St. Ann's Head	30.29	769.4	30.46	773.7	46	7.8		W			1		4						John C. Walker.
Sandwick Manse, Orkneys			29.73	755.1	45.8	7.7		WSW	30	13.4			10					Rain & hail	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.99	761.7	30.06	763.5	38.4	3.6		NE			2		9					Showery	Serg't W. H. Lyne.
Sheffield	30.04	763.0	30.33	770.4	45.0	7.2		W			2		10			0.11	2.8	Overcast	W. F. Cooper.
Silloth Rectory	30.19	766.8	30.22	767.6	44.8	7.1	81	W			6		10			0.169	4.29	Overcast	Rev. F. Redford, A. M
Stonyhurst (Observatory)			30.32	770.1	42.1	5.6		SW	20	8.9			10			Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	30.14	765.5	30.47	773.9	46.1	7.8		W			2		8					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.46	773.7	30.52	775.2	53	11.7		NW			3		4					D. clouds	W. Newcombe.
Valencia Observatory)	30.50	774.7	30.52	775.2	47.6	8.7		WSW	14	6.3			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	30.01	762.2	30.05	763.3	85.9	29.9	40	SSE	19.9	8.9		0	1k			0	0	Hazy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.68	652.3			73	22.8		E				4c	6k						Robert Burnet.
Constable, Cape Colony	26.82	681.2			79	26.1		SW											Francis Abbott, F.R.A.S
Hobart Town, Tasmania			29.93	760.2	74.0	23.3	74	SE			3		10k			0	0	Cloudy	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'tl'd			30.08	764.0	47.0	8.3		W			7		10k			0.08	2.0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.77	756.1	29.96	761.0	81.0	27.2	69	NE	13.5	6.0		2	3	W	ENE	0.09	2.3	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.88	758.9	29.97	761.2	68.0	20.0	83	N	2	0.9			9			0.23	5.3	Dull	J. Youngclause.
Monach Lt-house, Hebrides			29.91	759.7	48	8.9		W			7		10			0	0		
North Unst, Shetland Is			29.54	750.3				WNW			6	10	10	WNW		Blank	Blank		

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer.
City of Agra, S. 15° 58', W. 26° 43'			D. clouds	Capt. Thos. Young.
City of Cashmere, S. 3° 40', W. 32° 00'	Confused sea.	NE;E	Overcast	Capt. W. M. Grieve.
Barque Dochra, S. 31° 00', W. 30° 20'			Showery	Capt. N. Spalding.
S. S. German, S. 16° 19', W. 4° 29'			D. clouds	Capt. O. D. Coxwell.
Barque Royal Alexandra, S. 32° 01', E. 29° 18'			Misty	Capt. W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Sunbeam				Capt. C M. Dobson.
S. S Ethiopia				Capt. A. Campbell.
S. S. Decapolis				Capt. T. M. Almond.
Barque Dochra				Capt. N. Spalding.
Barque Fedalma				Capt. H. L. Fox.
H. M. S. Alert				Capt.J.P Maclear, R.N.
Barque Commewyne				Capt. Jas. Buchan.
S. S. Richmond				Capt. W. H. Stuart.
Bute Fylde				Capt. L. C. Dart.

Note.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.21	665.7	29.93	760.2	61.7	16.5	79	SE			2		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.04	762.9	30.08	764.1	36.1	2.3	91	WSW			4		10					Raining	
Fanöe	30.09	764.3	30.11	764.8	39.4	4.1	95	WSW			4		10					Snowing	
Godthaab (Greenland)	29.85	758.2	29.89	759.3	11.5	—11.4		S			6		10						
Stykkisholm (Iceland)	29.28	743.8	29.33	744.9	30.6	— 0.8	96	W			2		8						
Thorshavn (Farõe)	29.29	743.9	29.32	744.8	46.9	8.3	84	W			8		8						
Vestervig	29.86	758.5	29.97	761.3	38.7	3.7	97	SW			6		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation: no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.93	760.2	30.48	774.2	36.5	2.5	75	NE			3		5		NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.34	770.6	30.46	773.6	39.2	4	90	NE			1		10		Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	30.17	766.4	30.45	773 4	35.4	1.9	75	NNE			1		k			0	0		Klein, Commandant
Avignon, Normal School	30.10	764.8	30.18	766.6	50.5	10.3	60	N			4		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.87	757.6	30.41	772.5	36.3	2.4	80	E			1		10			0.012	0.3	Covered	C. Saillard, Director.
Beauvais, Normal School	30.21	767.2	30.49	774.5	34.3	1.3	80	NE			1		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29 43	747.6	30.32	770.2	43.7	6.5	72	NE			2		8		NE	0	0	Very cloudy	A. Carré, Director.
Bordeaux	30.12	765.0	30.32	770.0	38.3	3.5	83	NNE			1		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.44	747.8	30.36	771.2	42.1	5.6	81	N			2		n	E	E	0.094	2.4		Marlot, Director.
Bourges, Normal School	29.83	757.7	30.40	772.2	36.0	2.2	89	NNE			1		10n		NNE	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	30.25	768.3	30.49	774.5	44.2	6.8	77	NE			2		10		NE	0	0		Ch. de Kermaree, Dir
Caen, Normal School	30.39	771.9	30.47	773.9	39.9	4.4	77	E			1		5		NE	0	0	Cloudy	M. Bletrin, Director.
Carcassonne, N. School	29.80	756.8	30.32	767.5	51.1	10.6	62	WNW			1		5	WNW	WNW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	30.12	765.0	30.45	773.5	34.0	1.1	85	NNW			1		10			0	0	Covered	Jadot, Director
Chartres, Normal School	29.83	757.7	30.43	772.8	33.3	0.7	93	NW			1		10			0	0	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	29.94	760.1	30.37	771.3	34.9	1.6	93	N			1		10			0.028	0.7		Alluard, Director.
Commercy, Normal School	29.50	749.4	30.41	772.5	36.6	2.0	86	NE			1					0	0		Dr. Couliet, Director.
Commune de Gréasque*	29.03	737.4	30.17	766.4	58.8	14.9	29	N			1		0			0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.51	749.6	30.30	769.7	46.3	7.4	86	NNW			1		kn		SW	0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.16	766.1	30.39	771.8	46.4	8.0	73	WNW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	30.15	765.9	30.48	774.3	33.8		86	NE			3		10			0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.83	745.0	30.27	768.9	44.4	6.9	65	NNE			1	2c			NNW	0.071	1.80	Slightly cld'y	A. Baudry, Director
Lorient, Naval Observatory	30.36	771.1	30.47	773.9	44.6	7.0	65	NE			3		5		NE	0	0	½ covered	Lt. T. Carré, Director.
Lyons (Obs'y (Park Station)	29.68	753.9	30.33	770.3	41.9	5.5	73	N			1		k		NW	0.016	0.4		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.84	757.9	30.11	764.7	59.2	15.1	76	W			1-2		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.28	743.7	30.38	771.0	36.0	2.2	86	NE			2		2			0	0	Slightly cov.	Barbier, Director.
Mont-Louis	24.86	631.3	30.17	766.3	40.3	4.6	51	NW			3		0			0	0		M. Cave, for Dr. Fines.
Nice	30.10	764.4	30.13	765.3	57.7	14.3	66	SE			2		1	SE	SE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.87	758.8	30.05	763.3	50.4	10.2	70	N			6		0			0	0	Clear	M. Hoyer, Director.
Perpignan	29.09	764.3	30.20	767.0	52.5	11.4	50	NE	16.8	7.5			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.50	671.0			23.4	— 4.8							0		NE	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.													1						
Privas, Normal School	29.19	741.4	30.30	769.5	41.4	5.2	81	N			4		10	N	N	0	0	Covered	M. Tallieu
Puy de Dome (Summ') Obs	29.24	641.2			25.0	— 3.9	100	ENE			4		Fog			0.339	8.6	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	30.41	772.3	30.44	773.1	39.0	3.2	97	NE			3		8	NE	NE	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	30.35	771.0	30.44	773.2	41.2	5.1	68	NNE			1		2		N	0	0	Slightly cld'y	Frère Lucard, Director.
Saint Malo (Port) Obs'y	30.45	773.3	30.48	774.1	41.4	5.2	69	ENE			2		8	NE	NE	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	30.29	769.3	30.45	773.5	34.9	1.6	81	NNW			1		10			0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.17	740.8	30.23	767.7	50.0	10	86	N			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.57	751.0	30.30	769.5	45.7	7.6	93	WNW			1		10			Inap.	Inap.	Covered	B. Bailland, Dir.
Tours	30.24	768.2	30.44	773.2	36.7	2.6	79	NE			1		10			0	0	Covered	M. de Tastes.
Versailles, Observatory	29.94	760.5	30.43	773.0	33.8	1.0		NE			2		10			0	0	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.51	749.6	30.25	768.4	41.9	5.5	76	NW			1		10			0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.4	25.2										0	0		L'Abbé Marchési
Paris, Montsouris Obs'y	30.16	766.1			33.6	0.9	81	NNE			2		10			0	0		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.28	769.2	30.31	769.8	42.4	5.8	90	ENE	2.7	1.2			10k		ESE	0.244	6.2	Covered	Marc Dechevrens, J S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,082 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.48	748.9	30.36	771.1	32.4	0.2	67	N			4		9ks			0	0		Prof. Dr. Hoh.
Berlin	30.15	765.7	30.33	770.4	29.1	— 1.6	84	NW			2		10			0	0		Prof. Dr. Arndt.
Breslau	29.75	755.7	30.29	769.3	31.3	— 0.4	89	NNW			1		1			0	0		Royal University Obs'y
Carlsruhe	29.93	760.2	30.38	771.7	35.2	1.8	82	N			0		10	NE		0	0		Albert Senz.
Cassel	29.74	755.3	30.35	770 9	30.6	— 0.8	82	N			1		10	W		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	30.05	763.2	30.42	772.7	32.2	0.1	61	N			1		10			Inap	Inap.		Physical Society.
Friedrichshafen	28.86	733.0	30.35	770.9	39.4	4.1	77	NE			1		10	NE		0	0		Chief Telegrapher Wilhelm.
Hamburg	30.24	768.0	30.31	769.8	36.1	2.3	74	SW			3		10			0	0		Dr. Reinhold Kleeman.
Kiel	30.24	768.2	30.26	768.6	36.1	2.3	84	SW			4		10			0.002	0.5		Prof. Dr. G. Karsten.
Königsberg (Prussia)	30.12	765 0	30.21	767.2	31.1	— 0.5	77	W			5		4			0	0		Prof. E. Luther.
Köslin			30.22	767.5	32.0	0.0		SW			2		4			0	0		H. Müller.
Leipsic Observatory	29.94	760.5	30.39	771.9	28.8	— 1.8	84	NW			2		10			0.031	0.8		Prof. Dr. Bruhns, Privy Counselor
Magdeburg	30.13	765.2	30.36	771.1	31.8	— 0.1	83	WNW			3		10ks	W		0	0		Dr. Assmann.
Memel	30.07	763.8	30.12	765.0	31.8	— 0.1	92	SW			5–6		10n						Reinbrecht & Issermann
Munich (München)	28.45	722.5	30.39	771.8	31.6	— 0.2	85	NW			3		10	W		0.189	4.8		Dr. C. Lang.
Neufahrwasser	30.19	766.8	30.21	767.2	32.2	0.1	78	SSW			2		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.82	757.4	30.35	770.9	35.2	1.8	69	N			3		10			0	0		Reallehrer Dicknether.
Posen	29.99	761.7	30.30	769.5	32.0	0.0	60	W			4		2			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.84	757.9	30.42	772.6	37.0	2.8	84	NE			2		10	NE		0.025	0.63		Imp. University Observatory.
Stuttgart	29.40	746.7	30.30	769.6	35 1	1.7	84	N			1		10			0.016	0.4	Light rain	Prof. Dr. Schoder.
Thorn	30.13	765.4	30.33	770.3	32.7	0.4	56	Calm			0		0			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.79	731.3	30.38	771.7	30.7	— 0.7	86		6.4	0.2			10			0.020	0.5	Light fog	Reallehrer J. Hopfner.
Wustrow	30.22	767.6	30.24	768.2	34.7	1.5	83	SW			4		10s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.2	29.97	761.1	61.9	16.6		SW			2.0		5					⅛ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.93	760.2	29.98	761.5	72.5	22.5	51	WNW	14	6.3			4	SE		0	0	D. clouds	
Deesa	29.48	748.8	29.96	761.0	79.7	26.5	29	WSW	10.2	4.6			0			0	0	Blue sky	
Bombay	29.97	761.1	30.00	762.1	74.3	23.5	69	NW	21	9.4			0			0	0	Blue sky	
Poona (Yarrowda)	28.08	713.3	29.94	760.5	79.8	26.6	36	NW	22	9.8			0			0	0	Blue sky	
Belgaum	27.40	696.0	29.96	760.9	73.8	23.2	64	WSW	13	5.8			0			0	0	Blue sky	
Lahore	29.09	738.9	29.85	758.2	68.7	20.4	52	Calm	2.6	1.2			0			0	0	Blue sky	
Roorkee	28.96	735.5	29.87	758.7	72.2	22.3	54	Calm	1.8	0.8			4			0	0		
Agra	29.28	743.8	29.85	758.2	81.7	27.6	33	NE	5.6	2.5						0	0		
Nagpur	28.79	731.3	29.82	757.5	89.6	32.0	35	W	2.8	1.2			3	W		0	0	D. clouds	
Jubbulpore	28.43	722.0	29.79	756.6	79.9	26.6	49		3.1	1.4			4		S	0	0	D. clouds	
Lucknow	29.52	749.8	29.91	759.6	72.3	22.4	44	NW	0.7	0.3			0			0	0	Blue sky	
Allahabad	29.58	751.4	29.90	759.6	69.9	21.1	53	Calm	0.8	0.4			1			0	0	D clouds	
Patna	29.75	755.7	29.94	760.4	75.9	24.4	43	SW	0.7	0.3			4	SW	SW	0	0	D. clouds	
Hazaribagh	27.87	708.2	29.91	759 8	71.8	22.1	28	NW	4.1	1.8			9			0	0		
Cuttack	29.85	758.2	29.93	760.3	82.4	28.0	62	S	2.2	1.0			0			0	0	Blue sky	
Calcutta (Alipore)	29.91	759.6	29.93	760.2	75.3	24.1	67	WSW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.54	750.3	29.94	760.5	69.8	21.0	44	Calm	2.6	1.2			0			0	0	Blue sky	
Chittagong	29.86	758.5	29.95	760.8	73.8	23.2	66	W	3.0	1.3			0			0	0	Misty	
Sibsagar	29.66	753.2	30.01	762.1	64.9	18.3	76	NE	0.9	0.4			4			0.08	2.0	Blue sky	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,251 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.74	755.4	30.16	766.0	49.8	9.9	59	SW	0.7	0.3	.....	.....	7	.....	.....	0.138	3.5	.....	Prof. Giovanni Clodig.
Milan	29.68	752.7	30.17	766.4	44.6	7.0	91	WSW	1.3	0.6	.....	.....	7	S	.....	0	0	.....	Prof. Schiaparelli.
Padua	30.05	763.2	30.16	766.1	50.2	10.1	66	SW	4.9	2.2	.....	.....	3	.....	.....	0.154	3.9	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.26	743.3	30.23	767.9	40.5	4.7	92	ESE	5.6	2.5	.....	.....	10	N	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.94	760.4	30.13	765 4	55.0	12.8	68	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.20	716.3	30.15	766.0	44.2	6.8	77	N	.....	.....	4	.....	6	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.10	764.4	30.15	765 7	45.0	7.2	83	NW	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.87	758.8	30.13	765.4	51.8	11.0	62	NE	.....	.....	4	.....	1	NE	.....	0.063	1.6	.....	Cav. F. Meucci.
Leghorn	30.05	763.3	30.14	765.5	53.6	12.0	58	NE	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.89	759.3	30.08	763.9	54.7	12.6	41	N	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	29.76	755.8	30.02	762.4	53.2	11.8	61	NNE	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi
Cosenza	29.15	740.3	30.04	763.1	51.1	10.6	73	SE	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.87	758.7	30.07	763.8	56.5	13.6	67	NW	.....	.....	2	.....	7	NW	.....	0.382	9.7	.....	Prof. A. Pacinotti.
Palermo	29.86	758.5	30.12	765.0	55.4	13.0	56	NW	11.9	5.3	.....	.....	7	WNW	.....	0	0	.....	Prof. G. Ciaccatore.
Syracuse	30.02	762.4	30.06	763.5	59.2	15.1	69	WNW	1.3	0.6	.....	.....	7	W	.....	0.043	1.1	.....	Prof. V.G. Guliano.
SUB-SERIES.																			
Naples, S. R.	29.62	749.9	30.07	763.6	58.2	11.8	61	NE	0.7	0.3	.....	.....	5	.....	.....	0.169	4.3	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.44	773.2	30.45	773.4	39.9	4.4	65	SE	4.0	1.8	.....	ck	8s	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.18	766.6	30.30	771.9	42.4	5.8	89	NNE	3.2	1.4	.....	.....	10n	.....	.....	0.066	1.65	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.50	774.7	30.57	776.5	33.5	0.8	83	NE	3.5	1.6	.....	5c;cs	0	.....	.....	0	0	Fair	The Staff.
Wakayama	30.40	772.1	30.45	773.4	40.5	4.7	79	NNW	1.5	0.7	.....	.....	5s;cs	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.04	636.0	30.25	768.3	40.6	4.8	48	W	.....	.....	1	2c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.43	620.4	30.13	765.4	57.0	13.9	72	N	.....	.....	1	1c	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.70	754.3	29.96	761.0	61.9	16.6	94	NW	.....	.....	2	3cs	0	.....	.....	0	0	Clear	F. Quijano, C. E.
Mexico, Central Observatory	28.04	585.2	30.17	766.3	45.5	7.5	54	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.11	612.5	.....	.....	60.8	16.0	38	SE	.....	.....	3	2k	0	SW	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.94	608.1	30.04	762.9	50.5	10.3	60	NW	.....	.....	1	1cs	0	SW	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.46	595.9	30.44	773.2	41.0	5.0	47	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.1	30.12	765.0	55.6	13.1	30	SW	.....	.....	1	4	0	SW	.....	0	0	Hazy	G. Barreta, M. D.
Tlacotalpam	29.85	758.3	29.87	758.6	68.5	20.3	92	S	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. M. M. Chazaro.
Vera-Cruz	29.85	758.3	29.88	759.0	71.6	22.0	91	Calm	0	0	.....	.....	0	2s	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.53	572.3	30.35	770.9	52.7	11.5	43	Calm	.....	.....	0	3cs	0	SW	.....	0	0	Very clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.8 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.43	773.0	30.43	773.0	43.0	6.1	.....	W2W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	30.27	768.8	30.32	770.2	38.5	3.6	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.30	769.6	30.30	769 6	38.3	3.5	.....	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.40	772.1	30.40	772.1	41.5	5.3	74	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Utrecht	30.35	771.0	30.40	772.2	41.2	5.1	69	WSW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.61	752.2	29.67	753.6	43.5	6.4	94	SW	25.9	11.6	.....	.....	10	.....	.....	1.929	49.0	Raining	
Brönö	29.20	741.6	29.24	742.6	38.5	3.6	57	SE	18	8	.....	.....	10	.....	.....	0.276	7.0	Raining.....	
Christiana	29.53	750.0	29.68	753.8	37.0	2.8	75	SW	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	28.95	735.2	28.99	736.3	29.5	— 1.4	64	SSE	4	2	.....	.....	10	.....	.....	0.059	1.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.23	767.8	30.44	773.2	55.8	13.2	79	ENE	.....	.....	5	.....	4	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.7	30.06	763.4	54.0	12.2	74	ENE	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.85	758.1	29.93	760.3	61.3	16.3	49	NE	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.65	753.1	30.02	762.4	54.7	12.6	44	NE	20.6	9.2	.....	.....	5	ESE	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.26	768.6	30.33	770.4	55.4	13.0	66	NE	15.0	6.7	.....	.....	3	.....	.....	0.071	1.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.d Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.85	758.2	77.0	25.0	.....	WNW	.....	.....	2	.....	2	.....	WNW	2	WNW	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	30.08	763.9	75.2	24.0	.....	ENE	.....	.....	1	.....	3	.....	NE	2	ENE	D. clouds.....	A.de SouzaRoza, 2ndL't
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, N. 6° 27′, E. 6° 45′	.....	.....	29.91	759.7	85.3	29.6	.....	SSW	.....	.....	4	.....	7	.....	S	3	S	Gloomy	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.20	767.1	59.0	15.0	.....	N	.....	.....	3	.....	10	.....	N	1	.....	Raining, 4 hr's rain-fall.]	J. G. Felgo, 2nd Lieut
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.26	743.2	29.28	743.7	24.4	— 4.2	93	SSW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Astrakhan	30.19	766.8	30.11	764.7	19.2	— 7.1	69	E	13	6	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.78	756.3	30.35	770.9	— 8.1	—22.3	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.67	755.6	29.92	760.0	28.4	— 2.0	84	SW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.94	735.0	29.97	761.2	16.3	— 8.7	75	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.82	757.4	30.11	764.7	25.0	— 3.9	95	SW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	29.95	760.6	29.97	761.1	19.8	— 6.8	89	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.47	748.5	30.15	765.8	21.4	— 5.9	90	NW	9	4	.....	.....	10ks.n	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.89	759.1	30.40	772.1	23.2	— 4.9	61	S	0	0	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjano w.
Lugan	29.83	757.6	30.05	763.3	10.6	—11.9	71	ESE	4	2	.....	.....	4	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Moscow	29.68	751.4	30.18	766.5	23.4	— 4.8	71	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.76	705.0	30.89	782.3	—10.7	—23.7	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	30.03	762.7	30.10	764.5	20.3	— 6.5	65	N	9	4	.....	.....	9cs	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.96	761.0	30.21	767.4	25.9	— 3.4	65	ENE	2	1	.....	.....	0	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.71	754.6	29.72	755.0	26.2	— 3.5	89	SW	25	11	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Tashkend	28.69	728.7	30.37	771.5	26.2	— 3.2	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.48	723.5	29.90	759.5	53.4	11.9	36	Calm	0	0	.....	.....	5s	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.80	756.8	30.24	768.1	30.0	— 1.1	63	W	2	1	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.74	755.4	30.19	766.7	28.2	— 2.1	67	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniseisk	29.88	759.0	30.20	767.1	3.9	—15.6	79	S	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.06	763.5	30.17	766.2	53.6	12	59	SE	4.2	1.89	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.26	768.6	30.32	770.1	48.7	9.3	81	E	1.1	0.50	.....	.....	10	.....	.....	0.094	2.4	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.7	.....	.....	39.2	4.0	77	NE	15.9	7.12	.....	0	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.87	707.9	30.15	765.7	48.0	8.9	.42	N	10.4	4.66	.....	1	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.92	760.0	30.08	763.9	55.4	13.0	70	ENE	5.3	2.36	.....	5	5	NW	.....	Inap.	Inap.	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.7	30.15	765.9	49.8	9.9	64	NE	34.9	15.6	.....	.....	4	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.03	762.7	30.09	764.4	64.6	18.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.8	29.97	761.1	78.9	26.1	84	N	.....	.....	.....	.....	2s	.....	E	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.3	29.95	760.8	52.7	11.5	88	ESE	23.4	10.5	.....	0	10	.....	SW	0.840	21.3	Raining.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.3	30.07	763.6	73.4	23.0	83	NE	1.3	4.59	.....	6kcn	6kn	NE	NE	0.118	3.00	Cloudy.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.09	738.8	29.13	739.8	32.0	0.0	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	.....
Umea	29.28	743.7	29.33	745.0	37.4	3.0	66	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	.....
Hernosand	29.41	747.1	29.47	748.4	37.8	3.2	53	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	.....
Stockholm	29.59	751.6	29.77	756.1	39.2	4.0	73	SW	.....	.....	4	.....	2	.....	.....	0	0	.....	.....
Wisby	29.78	756.5	29.84	758.0	34.2	1.2	78	WSW	.....	.....	4	.....	10	.....	.....	0	0	.....	.....
Sub-Series.																			
Upsala	29.58	751.4	29.67	753.6	37.4	3.0	80	SW	18.7	6.1	.....	.....	0	.....	.....	0.004	0.11	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.82	732.1	30.29	769.3	41.5	5.3	65	ENE	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.65	727.6	30.34	770 6	38.5	3.5	87	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +6.3 mm.; Thermometer, +0.4 Cent. Relative Humidity, —3 per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.07	763.8	38.3	3.5	70	NE	11	5.0	.....	.....	9	.....	.....	0.079	2.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.99	761.7	51.1	10.6	.....	W	.....	.....	1	.....	10	.....	.....	0.12	3	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.11	764.9	62.1	16.7	57	N	.....	.....	1	1c	.....	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	30.09	764.3	30.10	764.5	3	—16.1	.....	N	1	0.4	.....	0	3ks	.....	.....	0	0	Fair	Hon. J. Ferguson.
Chatham, N. B	30.12	765.0	30.19	766.8	15.5	— 9.2	91	N	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.07	763.8	30.12	765.0	24.8	— 4.0	95	NE	6	2.7	.....	0	2s	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.60	751.8	29.80	756.9	14.5	— 9.7	93	NE	.....	.....	1	.....	10s	.....	.....	0.026	0.66	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	E	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	6.8	—14.0	77	SE	15	6.7	.....	2k	5s	W	.....	0.03	0.8	Fair	J. McWilliams.
Fredericton, N. B	30.13	765.3	30.20	767.1	17.5	— 8.1	76	W	1	0.4	.....	2c	0	.....	.....	0	0	Fair	Prof. Harrison.
Fort Garry, Manitoba	28.83	732.3	29.77	756.1	—13.8	—25.4	80	NE	8	3.6	.....	.....	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.46	722.9	29.57	751.1	41.0	5.0	100	S	.....	.....	2	.....	10n	.....	.....	0.47	11.9	Raining	James Grant.
Halifax, N. S	29.96	761.4	30.09	764.3	29.1	— 1.6	88	N	7	3.1	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	A. Allison.
Hamilton, Ontario	29.29	744.0	29.66	753.4	43.1	6.2	86	SW	.....	.....	2	.....	10n	.....	.....	0.22	5.6	Raining	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.39	746.5	29.74	755.4	35.7	2.1	90	S	13	5.8	.....	.....	10n	.....	.....	0.16	4.1	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.97	761.2	30.01	762.2	28.2	— 2.1	89	S	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Montreal, Quebec	29.70	754.4	29.91	759.7	10.0	—12.2	83	SE	12	5.4	.....	.....	Haze	.....	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nr son.
Norwood, Ontario	29.08	738.6	29.83	757.7	12.8	—10.7	100	W	2	0.9	.....	5ck	0	NW	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.82	732.3	29.52	749.8	37.5	3.1	91	SE	15	6.7	.....	.....	10n	.....	.....	0.25	6.3	Light rain	Rev. R. Mosley.
Peterboro, Ontario	28.93	734.8	29.70	754.4	36.7	2.6	90	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	28.98	736.1	29.68	753.9	38.0	3.3	91	SW	8	3.6	.....	.....	10n	.....	.....	0.15	3.8	Light rain	H. Morgan.
Port Stanley, Ontario	29.00	736.6	29.66	753.4	37.1	2.8	90	E	12	5.4	.....	.....	10n	.....	.....	0.27	6.9	Cloudy	M. Payne.
Quebec, Quebec	29.72	754.9	30.07	763.8	11.0	—11.7	80	NE	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.20	741.7	29.69	754.1	18.1	— 7.7	80	E	8	3.6	.....	.....	10s	.....	.....	0.60	15.2	Hailing	W. H. McIntyre.
St. John, N. B	29.96	761.0	30.14	765.5	17	— 8.3	100	NW	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear	G. Murdock, C. E.
Saugeen, Ontario	28.78	731.0	29.49	749.0	45.1	7.3	80	S	27	12.1	.....	.....	10ks	.....	.....	0.11	2.8	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.32	719.3	29.01	752.1	40.0	4.4	95	SW	10	4.5	.....	.....	10s	.....	.....	0.34	8.6	Raining	C. J. MacGregor, M. A.
Sydney, C. B	30.07	763.8	30.11	764.8	29.3	— 1.5	85	NE	7	3.1	.....	.....	10n	.....	.....	0.01	0.3	Cloudy	T. C. Hill, C. E.
Toronto, Ontario	29.28	743.7	29.67	753.6	39.1	3.9	95	SE	9	4.0	.....	.....	Fog	.....	.....	0.120	3.05	Light rain	Magnetic Observatory
Windsor, N. S	29.98	761.5	30.08	764.0	26.5	— 3.1	94	N	9	4.0	.....	.....	10ks	.....	.....	0	0	Fair	Prof. John E. Oram, M.A
Woodstock, Ontario	28.54	724.9	29.61	752.1	41.2	5.1	94	SE	23	10.3	.....	.....	10s	.....	SW	0	0	Overcast	Professor Wolverton.
Yarmouth, N. S	30.02	762.5	30.09	764.8	27.3	— 2.6	77	N	3	1.3	.....	2cs	4s	NW	.....	0.40	10.2	Fair	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.98	761.5	30.24	768.1	30	— 1.1	100	E	.....	.....	.....	.....	Fog	.....	.....	0.50	12.7	Foggy	John Delany.
St. Pierre, M. F., l'Hopital Maritime	.....	.....	30.00	762.0	30.2	— 1.0	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	The Commandant
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Albany, New York	29.86	758.4	30.10	764.5	27	— 2.8	64	S	5	2.2			10s		W	0	0	Cloudy	
Alpena, Michigan	28.74	730.0	29.37	746.0	37	2.8	81	S	7	3.1			10s		SW	0.05	1.3	Cloudy	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.89	733.8	30.05	763.3	49	9.4	71	SE	7	3.1		0	2s		Calm	0	0	Fair	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	40	4.4	73	SE	8	3.6			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.97	761.2	30.18	766.6	47	8.3	85	Calm	0	0		1cs	0	Calm		0	0	Clear	
Baltimore, Maryland	30.06	763.5	30.11	764.8	40	4.4	73	NE	6	2.7			10s		Calm	0.04	1.0	Cloudy	
Barnegat, New Jersey	30.15	765.8	30.17	766.3	39	3.9	64	SE	12	5.4			10s		Calm	0	0	Cloudy	
Bismarck, Dakota	27.68	703.1	29.54	750.3	15	— 9.4	82	SE	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Boerne, Texas	28.46	722.9	29.76	755.9	58	14.4	82	NW	4	1.8			10s		NW	0	0	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	38	3.3	72	NW	2	0.9			10s		Calm	0.09	2.3	Cloudy	
Boston, Massachusetts	29.99	761.7	30.16	766.1	24	— 4.4	61	Calm	0	0		2k	5s	Calm	Calm	0	0	Fair	
Brackettville, Texas	28.77	730.7	29.82	757.4	56	13.3	57	NW	6	2.7		0	2s		Calm	0.01	0.3	Fair	
Breckenridge, Minnesota	28.56	725.4	29.63	752.6	0	—17.8	100	N	6	2.7			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.76	755.9	29.81	757.2	73	22.8	85	S	16	7.2		0	0			0	0	Clear	
Buffalo, New York	29.00	736.6	29.69	754.1	45	7.2	53	S	12	5.4			10n		Calm	0.04	1.0	Light rain	
Burkes, Arizona																			
Burlington, Vermont	29.67	753.6	29.97	761.2	29	— 1.7	67	SE	25	11.2			10s		NW	0	0	Cloudy	
Cairo, Illinois	29.29	744.0	29.66	753.4	64	17.8	73	SW	24	10.7			10s		SW	0	0	Threatening	
Campo, California	27.49	698.2	30.06	763.5	33	0.6	89	W	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	45	7.2	92	NE	2	0.9		0	Haze			0	0	Clear	
Cape Henry, Virginia	30.13	765.3	30.15	765.8	44	6.7	76	S	10	4.5			10s		Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	54	12.2	87	S	2	0.9		5cs	0	S		0	0	Fair	
Cape May, New Jersey	30.13	765.3	30.16	766.1	45	7.2	76	S	12	5.4			10s		S	0	0	Cloudy	
Castroville, Texas	29.14	740.1	29.83	757.7	63	17.2	42	NW	8	3.6			10s		S	0	0	Cloudy	
Cedar Keys, Florida	30.12	765.0	30.14	765.5	64	17.8	89	S	11	4.9		0	0			0	0	Clear	
Charleston, South Carolina	30.10	764.5	30.16	766.1	56	13.3	75	S	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.26	743.2	30.09	764.3	44	6.7	84	SW	2	0.9		5cs	Sm'e	SW	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.20	741.7	30.01	762.2	50	10.0	58	S	8	3.6		5cs	Sm'e	S	Calm	0	0	Fair	
Cheyenne, Wyoming	23.61	599.7	29.55	750.6	28	— 2.2	66	W	22	9.8		0	0			0	0	Clear	
Chicago, Illinois	28.76	730.5	29.42	747.3	54	12.2	87	SW	7	3.1			10n		Calm	0.34	8.6	Light rain	
Cincinnati, Ohio	29.05	737.9	29.67	753.6	60	15.6	44	S	13	5.8		0	8ks		S	Inap.	Inap.	Fair	
Cleveland, Ohio	28.93	734.8	29.63	752.6	53	11.7	45	S	14	6.3			10n		SW	0.04	1.0	Light rain	
Coleman City, Texas	28.10	713.7	29.76	755.9	50	10.0	58	NW	12	5.4		5ck	0	S		0.21	5.3	Fair	
Columbus, Ohio	28.85	732.8	29.67	753.6	56	13.3	51	S	10	4.5			10s		S	0	0	Cloudy	
Concho, Texas	28.10	713.7	29.71	754.6	50	10.0	93	W	8	3.6			10ks		Calm	0.08	2.0	Cloudy	
Corsicana, Texas	29.38	746.2	29.84	757.9	60	15.6	77	SW	4	1.8			10ks		Calm	0.10	2.5	Cloudy	
Davenport, Iowa	28.82	732.0	29.44	747.8	46	7.8	69	W	7	3.1			10s		Calm	0.87	22.1	Cloudy	
Dayton, Washington T'y					35	1.7	80	SW			4		10s		Calm	0.03	0.8	Cloudy	
Deadwood, Dakota	24.86	631.4			26	— 3.3	63	Calm	0	0		0	0			0.10	2.5	Clear	
Decatur, Texas	28.67	728.2	29.84	757.9	56	13.3	63	NW	8	3.6		8c	0	NW		0.40	10.2	Cloudy	
Delaware Breakwater, Del.	30.14	765.5	30.16	766.1	42	5.6	74	SE	14	6.3		0	8s		Calm	0	0	Cloudy	
Denison, Texas	28.99	736.3	29.76	755.9	56	13.3	81	SW	11	4.9			10ks		SW	0.30	7.6	Cloudy	
Denver, Colorado	24.44	620.8	29.66	753.4	35	1.7	27	W	7	3.1		0	0			0	0	Clear	
Des Moines, Iowa	28.68	728.5	29.56	750.8	36	2.2	71	NW	3	1.3		0	8s		NW	0	0	Cloudy	
Detroit, Michigan	28.86	733.0	29.51	749.5	47	8.3	85	SW	11	4.9			10s		Calm	0.18	4.6	Threatening	
Dodge City, Kansas	27.13	689.1	29.44	747.8	34	1.1	25	W	15	6.7		0	0			0	0	Clear	
Dubuque, Iowa	28.76	730.5	29.45	748.0	37	2.8	81	SW	5	2.2			10s		SW	0.05	1.3	Cloudy	
Duluth, Minnesota	28.76	730.5	29.44	747.8	30	— 1.1	80	N	6	2.7			10s		N	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.29	744.0	30.02	762.5	60	15.6	60	N	4	1.8		0	0			0	0	Clear	
Eastport, Maine	30.06	763.5	30.13	765.3	20	— 6.7	85	N	10	4.5			10s		NE	0.02	0.5	Cloudy	
Edinburg, Texas					70	21.1	90	Calm			0		10s		S	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	28.96	735.6	29.67	753.6	47	8.3	70	S	16	7.2			10n		Calm	0.35	8.9	Light rain	
Escanaba, Michigan	28.66	728.0	29.30	744.2	33	0.6	89	NW	5	2.2			Fog		NW	Inap.	Inap.	Foggy	
Florence, Arizona	28.56	725.4	30.16	766.1	34	1.1	90	W	1	0.4		0	0			0	0	Clear	
Fort Apache, New Mexico	25.11	637.8	30.56	776.2	24	— 4.4	87	E	4	1.8		0	0			0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.33	694.2	29.18	741.1	20	— 6.7	85	S	1	0.4		8cs	0	SW		0.23	5.8	Cloudy	
Fort Custer, Montana	26.37	669.8			36	2.2	62	W	12	5.4		0	0			0	0	Clear	
Fort Davis, Texas	25.12	638.0	30.08	764.0	40	4.4	48	SW	2	0.9		8cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter.	29.10	739.1	29.63	752.6	55	12.8	81	S	18	7.2		10cs	0	S		0.70	17.8	Cloudy	
Fort Grant, Arizona	25.17	639.3	29.97	761.2	36	2.2	45	N	10	4.5		0	0			0	0	Clear	
Fort Griffin, Texas	28.57	725.7	29.84	757.9	51	10.6	79	SW	8	3.6		0	0			0	0	Clear	
Fort Keogh, Montana	26.77	680.0			33	0.6	79	SW	5	2.2			10ks		S	Inap.	Inap.	Cloudy	
Fort McKavett, Texas	27.67	702.8	29.60	751.8	46	7.8	54	NW	5	2.2		4ck	1ks	S	S	0.1	3.3	Clearing	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.52	724.4	29.62	752.3	46	7.8	40	SW	8	3.6		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.63	701.8			15	— 9.4	82	W	4	1.8			10s		W	0.01	0.3	Cloudy	
Fort Verde, Arizona					25	— 3.9	50	SW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.13	714.5	29.70	754.4	49	9.4	51	N	4	1.8		0	8cs		Calm	Inap.	Inap.	Fair	
Galveston, Texas	29.88	758.9	29.92	760.0	66	18.9	95	S	2	0.9		0	2ks		SW	0	0	Clear	
Grand Haven, Michigan	28.76	730.5	29.38	746.2	49	9.4	85	SE	22	9.8			10n		Calm	0.52	13.2	Light rain	
Helena, Montana																			
Henrietta, Texas	28.83	732.3	29.75	755.6	49	9.4	85	W	12	5.4		0	2s		W	0.30	9.9	Fair	
Indianapolis, Indiana	28.79	731.3	29.53	750.0	58	14.4	76	SW	12	5.4			10n		SW	Inap.	Inap.	Light rain	
Indianola, Texas	29.89	759.2	29.92	760.0	67	19.4	95	S	2	0.9			10s		S	0	0	Cloudy	
Jacksboro, Texas	28.64	727.4	29.74	755.4	56	13.3	63	SW	14	6.3		0	0			0.68	17.3	Clear	
Jacksonville, Florida	30.13	765.3	30.16	766.1	56	13.3	87	Calm	0	0		0	Fog		Calm	0	0	Clear	
Keokuk, Iowa	28.85	732.8	29.44	747.8	51	10.6	79	W	4	1.8			10s		W	0.75	19.1	Cloudy	
Key West, Florida	30.09	764.3	30.12	765.0	70	21.1	75	NE	10	4.5		2k	0	NE		0	0	Fair	
Kittyhawk, North Carolina	30.18	766.6	30.21	767.3	45	7.2	84	SE	6	2.7		8cs	Fog	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	30.00	762.0	42.5	5.8	79	Calm	0	0		8cs	2s	W	Calm	0	0	Cloudy	
La Crosse, Wisconsin	28.69	728.7	29.43	747.5	30	— 1.1	78	NW	8	3.6			10s		Calm	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	27	— 2.8	76	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.93	760.2	65	18.3	73	N	13	5.8		0	0			0	0	Clear	
Leavenworth, Kansas	28.74	730.0	29.56	750.8	46	7.8	62	NW	5	2.2			10s		W	0.60	15.2	Cloudy	
Lewiston, Idaho					40	4.4	91	W	4	1.8		10k	0	W		0	0	Cloudy	
Little Rock, Arkansas	29.45	748.0	29.80	756.9	63	17.2	78	W	11	4.9			10s		S	0	0	Cloudy	
Los Angeles, California	29.81	757.2	30 17	766.3	41.0	5.0	82	NW	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.15	740.4	29.68	753.9	61	16.1	55	S	25	11.2			10s		SW	0	0	Cloudy	
Lynchburg, Virginia	29.38	746.2	30.08	764.0	38	3.3	81	S	1	0.4		10cs	0	SW		0	0	Cloudy	
Madison, Wisconsin	28.34	719.8	29.33	745.0	46	7.8	77	SW	5	2.2			10s		SW	0	0	Cloudy	
Marquette, Michigan	28.72	729.5	29.42	747.3	32	0.0	89	NW	12	5.4			10s		Calm	0	0	Cloudy	
Mason, Texas	28.26	717.8	29.98	761.5	59	15.0	65	W	10	4.5		0	8s		W	0.01	0.3	Fair	
Memphis, Tennessee	29.43	747.5	29.75	755.6	66.5	19.2	71	S	16	7.2			10ks		SW	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Milwaukee, Wisconsin	28.64	727.4	29.33	745.0	61	16.6	86	SW	12	5.4	.....	.....	10s	.....	Calm	0.31	7.9	Cloudy	
Mobile, Alabama	29.99	761.7	30.03	762.7	61	16.1	94	S	7	3.1	.....	0	8s	.....	SW	0	0	Fair	
Montgomery, Alabama	29.83	757.7	30.07	763.8	53	11.7	93	SE	8	3.6	.....	2k	0	SW	.....	0	0	Clear	
Morgantown, West Virginia	28.86	733.0	29.82	757.4	61	16.1	38	SW	7	3.1	.....	.....	10ks	.....	W	0	0	Cloudy	
Mt. Washington, N. H.	23.71	602.2	30.07	763.8	25	— 3.9	62	W	30	13.4	.....	8k	0	W	.....	0	0	Cloudy	
Nashville, Tennessee	29.35	745.5	29.87	758.7	62	16.7	67	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
New Haven, Connecticut	30.07	763.8	30.19	766.8	27	— 2.8	64	N	8	3.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.13	765.3	30.18	766.6	30	— 1.1	78	N	2	0.9	.....	0	6s	.....	N	Inap.	Inap.	Fair	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	63	17.2	88	SE	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.10	764.5	30.15	765.8	20.5	— 0.8	63	N	4	1.8	.....	2ck	2s	W	Calm	0	0	Fair	
New River, North Carolina	.....	.....	.....	.....	51	10.5	93	Calm	0	0	.....	8cs	0	Calm	.....	.....	.....	Cloudy	
New York, New York	29.99	761.7	30.18	766.6	32	0.0	79	NE	7	3.1	.....	5ck	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.08	764.0	30.14	765.5	44	6.7	92	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.70	678.2	29.31	745.2	22	— 5.6	72	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.03	762.7	30.07	763.8	40.0	4.4	91	S	10	4.5	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Omaha, Nebraska	28.47	723.1	29.37	751.1	34	1.1	79	NW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.49	749.0	29.82	757.4	38	3.3	63	SE	16	7.2	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Pembina, Dakota	28.72	729.5	29.66	753.4	—10	—23.3	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.05	763.3	30.08	764.0	65	18.3	80	SE	7	3.1	.....	5ck	Haze	SW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.09	764.3	30.14	765.5	38	3.3	63	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.92	734.6	30.81	782.6	39	3.9	64	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.23	437.6	29.44	747.8	— 8	—22.2	100	NW	48	21.5	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pioche, Nevada	23.98	609.1	29.75	755.6	25	— 3.9	56	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.00	736.6	29.78	756.4	56	13.3	81	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Port Huron, Michigan	28.85	732.8	29.50	749.3	45	7.2	84	S	15	6.7	.....	.....	10s	.....	S	0.14	3.6	Threatening	
Portland, Maine	30.10	764.5	30.16	766.1	24	— 4.4	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.13	765.3	30.21	767.3	41.5	5.3	78	S	8	3.6	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	50	10.0	86	SW	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.75	628.6	30.11	764.8	24	— 4.4	87	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.13	765.3	30.14	765.5	62	16.7	77	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.88	758.9	30.26	768.6	39	3.9	95	W	6	2.7	.....	10c	0	N	.....	0.04	1.0	Cloudy	
Rio Grande City, Texas	29.64	752.8	29.85	758.2	68	20.0	90	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Rochester, New York	29.11	739.4	29.72	754.9	46	7.8	92	S	6	2.7	.....	.....	10n	.....	S	0.09	2.3	Light rain	
Roseburg, Oregon	29.76	755.9	30.35	770.9	40	4.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Sacramento, California	30.16	766.1	30.24	768.1	42	5.6	100	NW	4	1.8	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	
St. Louis, Missouri	28.98	736.1	29.54	750.3	58	14.4	88	NW	3	1.3	.....	.....	10n	.....	Calm	0.53	13.5	Light rain	
St. Paul, Minnesota	28.59	726.2	29.41	747.0	30	— 1.1	78	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Salt Lake City, Utah	25.56	649.2	29.59	751.2	32	0.0	69	SE	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
San Antonio, Texas	29.84	745.2	29.92	760.0	61	16.1	66	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	30.10	764.5	30.18	766.6	45	7.3	84	E	4	1.8	.....	0	1ks	.....	N	0	0	Clear	
Sandusky, Ohio	28.94	735.1	29.59	751.6	53	11.7	67	S	21	9.4	.....	.....	10s	.....	S	0.10	2.5	Cloudy	
Sandy Hook, New Jersey	30.15	765.8	30.18	766.6	36	2.2	80	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	30.19	766.8	30.26	768.6	48	8.9	93	W	2	0.9	.....	.....	10s;fg	.....	NW;Calm	0.05	1.3	Cloudy	
Santa Fé, New Mexico	23.12	587.2	29.66	753.4	14	—10.0	46	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.07	763.8	30.17	766.3	55	12.8	87	E	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.87	758.6	29.88	758.9	62	16.7	83	W	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	55	12.8	81	SE	3	1.3	.....	5c	Haze	Calm	.....	0	0	Fair	
Socorro, New Mexico	25.36	644.1	29.43	747.5	29	— 1.7	56	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	28.89	733.8	29.53	750.0	55	12.8	87	W	8	3.6	.....	.....	10n	.....	W	0.47	11.9	Light rain	
Springfield, Massachusetts	30.05	763.3	30.19	766.8	26	— 3.3	63	NW	2	0.9	.....	.....	10ks	.....	NW	0	0	Cloudy	
Stockton, Texas	26.93	684.0	29.93	760.2	47	8.3	34	NW	20	8.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Thatcher's Island, Mass.	30.11	764.8	30.16	766.1	33	0.6	79	NE	9	4.0	.....	5ck	0	Calm	.....	0	0	Fair	
Toledo, Ohio	28.87	733.3	29.53	750.0	53	11.7	61	SE	10	4.5	.....	.....	10s	.....	SW	0.07	1.8	Threatening	
Tucson, Arizona	27.69	701.0	30.15	765.8	35	1.7	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.69	754.1	30.19	766.8	42	5.6	66	W	28	12.5	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.93	737.3	29.84	757.9	61	16.1	40	N	3	1.3	.....	5ck	0	NW	.....	0	0	Fair	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	64	17.8	94	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	23.76	603.5	29.24	742.7	27	— 2.8	64	SW	28	12.5	.....	8cs	0	NW	.....	0	0	Fair	
Visalia, California	29.81	757.2	30.20	767.1	42	5.6	83	NW	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Washington, D. C.	29.96	761.0	30.08	764.0	39	3.9	73	SE	3	1.3	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	27	— 2.8	88	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.09	764.3	30.17	766.3	54	12.2	74	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	32	0.0	79	W	13	5.8	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Wood's Holl, Massachusetts	30.11	764.8	30.15	765.8	32	0.0	79	N	8	3.6	.....	2k	0	NW	.....	0	0	Clear	
Yankton, Dakota	28.34	719.8	29.68	753.9	22	— 5.6	58	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.95	760.7	30.10	764.5	41	5.0	82	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	21.97	558.0	.....	.....	59.5	15.3	64	Calm	.....	.....	0	1k	Haze	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	69	20.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	78	Calm	0	0	.....	0	2cs	.....	.....	.....	.....	Hazy	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	77	25.0	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	77	25.0	86	NE	.....	.....	3	.....	8ks	E	.....	2.060	52.32	Cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.40	746.7	29.95	760.7	79	26.1	80	N	.....	.....	3	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.00	762.0	30.00	763.5	—32.0	—35.6	.....	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,760 (?) ft., or 533 (?) m.; Deadwood, (?), Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,883.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,-150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,996 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,350 inches, or 47.34 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.05‡	763.3‡	.....	.....	64	17.8	89	SE	9	4.0	.....	.....	5	.....	S	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.15‡	765.8‡	.....	.....	25	— 3.9	75	N	0	0	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan	30.51‡	774.9‡	.....	.....	36.5	2.5	57	NE	.....	.....	1	3ck	Haze	.....	W	0	0	.....	.....	Fair.....	
Adams, N. 12° 38′, W. 89° 32′	29.91‡	759.7‡	.....	.....	81	27.2	78	NNW	.....	.....	1	.....	2	.....	NE	.....	.....	Smooth	NE	Fair.....	
Colorado, New York, N. Y.	30.17‡	766.3‡	.....	.....	31	— 0.6	.....	E	5	2.2	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast.....	
Constitution, As inwall, Panama	29.94‡	760.5‡	.....	.....	77	25.0	73	NNE	.....	.....	4	.....	6	.....	NNE	.....	.....	Smooth	NNE	Fair.....	
Enterprise. Naples, Italy	30.08‡	764.0‡	.....	.....	55	12.8	68	SSW	.....	.....	1	.....	5?	.....	SSW	.....	.....	Smooth	.....	Clear?.....	
Franklin, Off Navy Yard, Norfolk, Va.	30.18‡	766.6‡	.....	.....	44	6.7	76	S	6	2.7	..	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Independence, Mare I'd, Navy Yard, Cal.	30.23‡	767.8‡	.....	.....	48	8.9	92	NW	1.2	0.5	.....	.....	10	.....	.....	0.096	2.44	.....	.....	Overcast.....	
Kearsarge, Boca del Toro, Chiriqui	29.98‡	761.5‡	.....	.....	76	24.4	82	W	.....	.....	2	.....	2	.....	W	.....	.....	Smooth	.....	Fair.....	
Lackawana, Navy Yard, Mare I'd., Cal.	30.24‡	768.1‡	.....	.....	52	11.1	93	Calm?	.....	.....	1?	.....	0?	.....	.....	.....	.....	.....	.....	Cloudy?.....	
Marion, S. 34° 56′, W. 55° 55′	30.02‡	762.5‡	.....	.....	70	21.1	70	E	.....	.....	3	.....	2	.....	S;E	0	0	Smooth	.....	Clear	
Michigan, Erie, Pa.	29.62‡	752.3‡	.....	.....	48	8.9	63	S	.....	.....	5	.....	10	.....	S	.....	.....	.....	.....	Raining	
Minnesota, New London, Conn.	30.16‡	766.1‡	.....	.....	35	1.7	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China.	30.29‡	769.4‡	.....	.....	45	7.2	76	NE	.....	.....	0–1	.....	10	.....	E	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.16‡	766.1‡	.....	.....	59	15.0	88	Calm	0	0	.....	.....	8	.....	Calm	0	0	.....	.....	Fair	
Nipsic. N. 27° 14′ W. 66° 21′	30.12‡	765.0‡	.....	.....	68	20.0	56	NNW	.....	.....	3	.....	2	.....	NNW	.....	.....	Mod'ate	N	Squally.....	
Onward, Callao, Peru †.	29.88‡	758.9‡	.....	.....	70	21.1	95	N	.....	.....	1	.....	5	.....	.....	.....	.....	Long	W	Hazy.....	
Palos, Tientsin, China.	30.39‡	771.9‡	.....	.....	37	2.8	100	E	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.	30.11‡	764.8‡	.....	.....	40	4.4	82	E	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama, Panama.	29.90‡	759.4‡	.....	.....	75	23.9	77	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy.....	
Powhatan, Norfolk, Va.	30.17‡	766.3‡	.....	.....	44	6.7	84	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Quinnebaug, Leghorn, Italy	30.12‡	765.0‡	.....	.....	58	14.4	64	NNE	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Clear.	
Richmond, Hong-Kong, China.	30.06‡	763.5‡	.....	.....	62	16 7	83	ENE	.....	.....	1–2	.....	10	.....	E	0.11	2.8	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas... †	29.96‡	761.0‡	.....	.....	69	20.6	100	SW	2	0.9	.....	.....	2	.....	S	0	0	.....	.....	Fair...	
Santee. Annapolis, Md	30.09‡	764.3‡	.....	.....	42	5.6	83	S	.....	.....	4	.....	8	.....	S	0	0	.....	.....	Cloudy.....	
Shenandoah, Montevideo, Uruguay	29.98‡	761.5‡	.....	.....	69	20.6	70	N	.....	.....	4	.....	2	.....	N	.....	.....	Smooth	.....	Fair...	
St. Louis, League Island, Pa.	30.18‡	766.6‡	.....	.....	35	1.7	70	SE	5	2.2	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Swatara, N. 38° 37′, E. 4° 04′	30.14‡	765.5‡	.....	.....	55	12.8	74	ENE	.....	.....	4	.....	10	.....	ENE	.....	.....	Mod'ate	NE	Cloudy.....	
Tennessee, Norfolk, Va.	30.18‡	766.6‡	.....	.....	44	6.7	84	SSW	14	6.3	.....	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy.....	
Trenton, Toulon, France.	30.10‡	764.5‡	.....	.....	61	16.1	61	S	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico.	29.93‡	760.2‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia. Navy Yard, Brooklyn, N.Y.	30.16‡	766.1‡	.....	.....	33	0.6	79	SE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Fair...	
Wabash, Boston, Mass.	30.20‡	767.1‡	.....	.....	27	— 2.8	64	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Wachusett, Montevideo, Uruguay †	30 52‡	775 2.	.....	.....	70	21.1	66	NNE	.....	.....	3	.....	5	.....	N	.....	.....	Smooth	N	Fair.....	
Wyoming, Naples, Italy	30.03‡	762 7‡	.....	.....	56	13.3	51	SSW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	SW	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer																			
S. S. Moravian, J. Graham, N. 48° 58', W. 40° 00'	30.34‡	770.6‡	53	11.7	80	SW			4		10		W	0	0	Long	WSW	Cloudy	John France.
S. S. Peruvian																			
S. S. Sardinian, J. E. Dutton N. 41° 30', W. 66° 35'	30.09‡	764.9‡				N			5		5		NW			Slight	NE	Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent Liverpool, Eng	30.44‡	773.2‡	49	6.1	75	W.			5		5		W	0	0			Fair	
S. S. Ohio, Henry Morrison N. 49° 05', W. 31° 04'...†*	30.59‡	777.0‡	53	11.7		SW			4		5		SW	0	0	Mod at	SW	Fair	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, N. 48° 10', W. 56° 30'	29.83‡	757.7‡	38.5	3 6	100	E			6		10		E	0	0	Long	E	Foggy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	30.14‡	765.5‡	60	15.6	94	SE			4		8		SE					Cloudy	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.	30.01‡	762.2‡				Calm			0		Fog			Light	Light	Smooth		Rain & fog	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 33° 42', W. 118° 18'	30.18‡	766.6‡	55	12.8		ENE			3		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Punta Arenas, Costa Rica†	29 95‡	760 7‡	77	25.0	91	Calm			0		0			0	0	Smooth	ENE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly, Panama†	29.87‡	758.7‡	72	22.2		NW			1		2		NW	0	0	Smooth		Clear	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 21° 50′, W. 108° 56′†	29.92‡	760.0‡	67	19.4	95	N			4		3		Calm	0	0	Mod'ate Heavy	N	D. clouds	
S. S. Dakota, D. E. Griffiths, Tacoma, Washington Ty.†	30.05‡	763.3‡	41	5.0		SE			2		10			Drizzle	Drizzle			Hazy	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 18° 49′, W. 159° 14′	29 90‡	759.4‡				ENE			2				SE			Heavy	NE	Rainy	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes. N. 46° 13′, W. 34° 03′†	30.65	778.5‡	57	13.9		SSE	2	0.9			1		S	0	0	Smooth		Fine	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S. 39° 11′, E. 130° 45′	30.04‡	763.0‡	67	19.4		SE			2		5		SE			Smooth		Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin,																			
Iron Cross, W. Randall, N. 16° 45′, W. 39° 30′	30.04‡	763.0‡	72	22.2	80	NNE			5		3		NNE	Slight	Slight	Mod'te	N	D. clouds	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

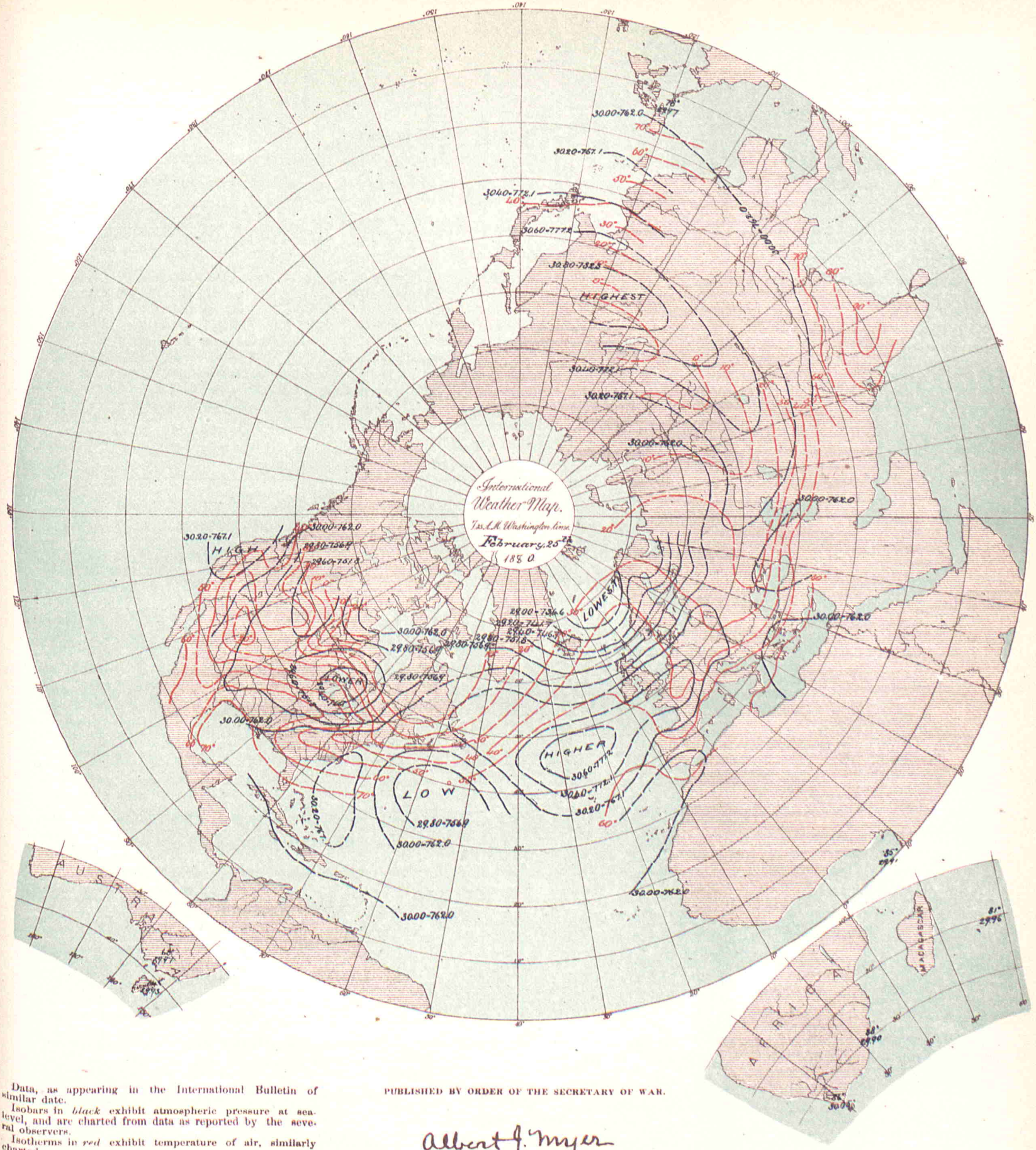
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 26, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.93	760.3				SW					5			0	0	Cloudy	
Nemours			29.96	761.0	58.6	14.8	82	E			2		9			0	0	Covered	Kesxuche.
Algiers			29.98	761.5	57.9	14.4	76	NE			4		10			0	0	Covered	Tourillere.
La Calle			30.00	761.9	65.3	18.5	62	ENE			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques
Sfax			30.03	762.8															Gau
Saida			29.92	759.9															Herbin.
Tebessa			30.00	762.0	64.9	18.3	30	Calm			0		7			Inap.	Inap.	Very cloudy	Watrin.
Geriville																			Brugniaux.
Laghouat			29.98	761 5	69.1	20.6	23	NE			1		2			Inap.	Inap.	Fair	Bertrand.
Biskra			29.93	760.3	71.2	21.8	61	WNW			1		4			Inap.	Inap.	Cloudy	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.49	749.1	30.06	763.5	42.1	5.6	58					0				0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.4	29.91	759.6	35.6	2.0	85	WSW	8.5	3.8		10				0	0		Dr. Wierzbicki.
Eperies	29.04	737.6	29.96	760.9	32.7	0.4	92	SE			4	10s		N		0	0		Julius Mikolik.
Gratz	28.74	729.9	30.04	762.9	36.0	2.2	76	SSE			2	0				0	0		Andreas Rospini.
Hermannstadt	28.57	725.6	30.05	763.3	35.4	1.9	95	S			1	10				0	0		Prof. A. Gottschling
Kremsmünster, Observatory	28.58	726.0	29.97	761 2	36.9	2.7	79	SSW			1	9				0	0		The Staff.
Lemberg	28.83	732.2	29.85	758.2	31.6	— 0.2	72	W			2	8				0.008	0.2		Dr. T. Stanecki.
Pola	29.97	761.3	30.09	764.3	48.2	9.0	73	W			1	4				0	0		I.R.Hydrographic Office.
Szathmar	29.60	751.9	30.09	764.3	32.7	0.4	92	SW			2	10				0	0		Pet. Pancsics, S. J.
Szegedin	29.73	755.1	30.02	762.5	37.4	3.0	73	W			2	8				0	0		Karl Stancel.
Trieste	29.99	761.7	30.09	764.3	45.3	7.4	72	Calm			0	0				Inap.	Inap.		P. Busin.
Vienna	29.23	742.4	29.97	761.1	43.5	6.4	48	W			2	5				0	0		I.R.Central Met. Ob'sy.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.66	753.3	29.86	758.5	38.1	3.4	60	WSW			4	10		WSW	0.031	0.8			Royal Observatory
Furnes	29.85	758.3	29.88	758.9	47.3	8.5	88	WNW			5	5			0.075	1.9			M. E. de Cae.
Maeseyck	29.71	754.7	29.84	757.9	37.9	3.3	94	SW			8	10			0.087	2.2	Raining		M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.47	748.5	29.57	751.1	40.0	4.4	.....	WNW	47	21.0	.....	.....	2	.....	.....	0.040	1.02	Squally	W. Boswell.
Ardrossan	29.78	756.4	29.80	756.9	41	5.0	.....	NW	.....	.....	7	.....	8	.....	.....	.....	.....	Overcast	G.Carrick.
Armagh, (Observatory)	29.80	756.9	30.04	763.0	43.1	6.2	.....	WNW	19	8.5	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.91	759.7	42.2	5.7	.....	W	46	20.6	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	29.30	744.2	29.82	757.4	41.1	5.1	.....	NW	43	19.2	.....	.....	6	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.43	747.5	29.83	757.7	43.1	6.2	63	NW	.....	.....	6	.....	6	.....	.....	0.12	3.0	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.94	760.5	29.98	761.5	78.5	25.8	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H. C
Cambridge (Observatory)	29.79	756.7	29.89	759.2	47.0	8.3	.....	NW	.....	.....	2	.....	7k	.....	.....	.....	.....	Showery	H. Todd.
Cardington	.....	.....	29.88	758.9	44.4	6.9	.....	NW	.....	.....	7	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham (School M. E.)	29.78	756.4	29.92	760.0	48.1	8.9	.....	NW	.....	.....	1	5ck	.....	.....	.....	.....	.....	D. clouds	Lance Corp'l Hooker, R. E.
Donaghadee	29.91	759.7	29.95	760.7	42	5.6	.....	NNW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.85	758.2	29.88	758.9	45	7.2	.....	NW	.....	.....	4	.....	2	.....	.....	.....	.....	Showery	J. Costello.
Falmouth (Observatory)	29.92	760.0	30.15	765.8	47.5	8.6	.....	NNW	.....	.....	6	.....	6	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, Natal	27.78	705.6	29.99	761.7	81.0	27.2	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.62	752.3	29.84	757.9	86	30.0	.....	W	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	30.15	765.8	45	7.2	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	M. J. O'Donaghue.
Gibraltar, Mediterranean.§	29.91	759.7	29.97	761.2	56.8	13.8	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.58	751.3	29.78	756.4	40.7	4.8	.....	NW	.....	.....	8	.....	2	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.75	755.6	29.76	755.9	46	7.8	.....	NW	.....	.....	5	.....	3	.....	.....	.....	.....	Squally	G. T. Watson.
Greenwich (Royal Obs'y)	29.74	755.4	29.92	760.0	47.9	8.8	.....	NW	.....	.....	.....	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.84	757.9	30.07	763.8	48.5	9.2	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Dr.S.E Hoskins, F.R.S.
Helston	30.29	769.4	30.42	772.7	50	10.0	.....	NNW	.....	.....	6	2ck	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.94	760.5	30.01	762.2	44	6.7	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.81	757.2	30.11	764.8	45.8	7.7	.....	W	.....	.....	6	.....	10	.....	.....	.....	.....	Rain & fog	J. Fisher.
Kew (Observatory)	29.90	759.4	29.93	760.2	48.0	8.9	.....	NW	23	10.3	.....	.....	7	.....	.....	.....	.....	D. clouds	The Met'g'l Office.
Leicester (Museum)	29.64	752.8	29.90	759.4	44.2	6.8	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.96	761.0	30.04	763.0	57	13.9	.....	SE	.....	.....	3	.....	8kn	.....	.....	Blank	Blank	Overcast	A. King.
Nairn	29.53	750.0	29.62	752.3	39	3.9	.....	WNW	.....	.....	6	.....	10	.....	.....	Blank	Blank	Overcast	W. D. Penny.
Nassau, Bahamas	.....	.....	30.16	766.1	71.0	21.7	.....	NE	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.71	754.6	29.90	759.4	42.7	5.9	.....	WNW	.....	.....	4	.....	10n;kd	.....	WNW	0.024	0.61	Raining	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.39	746.5	29.93	760.2	43.0	6.1	.....	WNW	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.73	755.1	29.99	761.7	45	7.2	.....	NW	.....	.....	6	.....	8	.....	.....	.....	.....	Squally	The Staff, for E. J. Stone, Esq.
Plymouth	30.01	762.2	30.09	764.3	49.6	9.8	.....	NNW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	John Merrifield.
*Roche's Point	30.12	765.0	30.20	767.1	48	8.9	.....	NNW	.....	.....	6	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
St. Ann's Head	29.94	760.5	30.11	764.8	45	7.2	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	Threatening	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.52	749.8	36.8	2.7	.....	NNW	39	17.4	.....	.....	10	.....	.....	.....	.....	Snowing	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	30.04	763.0	30.11	764.8	37.6	3.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Serg't W. H. Lyne.
Sheffield	29.60	751.8	29.88	758.9	45.0	7.2	.....	NW	.....	.....	6	.....	4	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.82	757.4	29.85	758.2	43.7	6.5	69	NW	.....	.....	6	.....	3	.....	.....	0	0	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.87	758.7	41.8	5.4	.....	W	31	13.9	.....	.....	9	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.73	755.1	29.95	760.7	49.5	9.7	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	30.10	764.5	30.16	766.1	51	10.6	.....	NW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	30.26	768.6	30.28	769.1	47.6	8.7	.....	NNW	21	9.4	.....	.....	5	.....	.....	.....	.....	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.89	759.2	29.93	760.2	99	37.2	94	W	7.0	3.1	.....	1c	2k	.....	.....	0	0	.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.70	652.8	.....	.....	75	23.9	.....	E	.....	.....	.....	5kn	9n	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	29.92	760.0	69.0	20.6	83	SE	.....	.....	2	.....	10k	.....	.....	0.11	2.8	Cloudy	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.74	755.4	42.3	5.7	.....	NW	.....	.....	4	.....	3k	.....	.....	0	0	Cloudy	C. Meldrum.
Mauritius (Observatory)	29.73	755.1	29.92	760.0	80.0	26.7	71	E	9.0	4.0	.....	3	6	.....	ENE	0.09	2.3	Cloudy	R. L. J. Ellery.
Melbourne (Observatory)	29.84	757.9	29.93	760.2	71.0	21.7	79	NE	2	0.9	.....	.....	9	.....	.....	0.24	6.1	Dull	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.83	757.7	43	6.1	.....	NNW	.....	.....	8	.....	10	.....	.....	0.6	15.2	.....	.....
North Unst, Shetland Is	.....	.....	29.41	747.0	.....	.....	.....	NW	.....	.....	7	6	8	NW	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0 9	Sea or swell. Direction from—																	
City of Agra, S. 13° 05′, W. 27° 33′	.....	.....	30.00‡	762.0‡	81.5	27.5	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
City of Cashmere, N. 5° 33′, W. 32° 48′	.....	.....	29.91‡	759.7‡	79.7	26.5	.....	NE	.....	.....	5	.....	8	.....	.....	5 Sea	NNE E;SE	Showery	Capt. W. M. Grieve.
Barque Dochra, S. 30° 47′, W. 27° 40′	.....	.....	30.06‡	763.5‡	76.8	24.9	.....	N	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast	Capt. N. Spalding.
S. S. German, S. 13° 21′, W. 7° 14′	.....	.....	30.02‡	762.5‡	77	25.0	.....	E	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Hope, N. 29° 20′, W. 94° —′	.....	.....	29.98	761.5	68	20.0	.....	SSW	.....	.....	3	.....	6	.....	.....	4	SE	Misty	Capt. Jas. Campbell.
Barque Royal Alexandra, S. 33° 12.′ E. 27° 45′	.....	.....	30.12‡	765.0	71.3	21.8	.....	ENE	.....	.....	4	.....	7	.....	.....	.....	.....	Misty	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Dochra	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. N. Spalding.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Bqte Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.19	665.2	29.91	759.7	64.4	18.0	71	NE			3		0			0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.02	737.1	29.07	738.3	36.1	2.3	94	SW			6		10						
Fanöe	29.15	740.5	29.17	741.0	39.4	4.1	87	W			7		9						Rain & fog
Godthaab (Greenland)	29.82	757.5	29.87	758.6	8.1	—13.3		N			2		10						
Stykkisholm (Iceland)	29.90	759.5	29.95	760.6	19.8	— 6.8	92	W			2		8						
Thorshavn (Faröe)	29.51	749.5	29.54	750.4	27.7	— 2.4	75	N			8		5						
Vestervig	28.85	732.7	28.96	735.5	38.5	3.6	88	WSW			7		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.64	752.8	30.19	766.8	39.2	4	76	SW			1		10			0	0	Covered	Collignon, Director.
Amiens, Normal School	29.87	758.8	29.99	761.8	42.1	5.6	94	SW			2		10		Calm	0.055	1.4	Covered	Vaillant, Director.
Arras, Engin'r School	29.67	753.6	29.93	760.3	42.6	5.9	97	WNW			4		n		NW	0	0		Klein, Commandant.
Avignon, Normal School	30.00	763.4	30.13	765.4	54.7	12.6	48	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.57	751.1	30.15	765.8	36.9	2.7	80	SW			1		10		N	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.75	755.7	30.03	762.8	41.0	5	84	W			2		10			0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.28	743.6	30.20	767.1	39.2	4	80	SSW			3		10		SW	0	0	Covered	A. Carré, Director.
Bordeaux	30.06	763.4	30.25	768.4	36.3	2.4	89	NNW			1		10			0	0	Covered	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.41	747.1	30.27	768.8	42.4	5.8	73	W			1		cn	W	W	0	0		Marlot, Director.
Bourges, Normal School	29.63	752.7	30.21	767.2	37.0	2.8	93	SW			1		10n		SW	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.98	761.4	30.22	767.5	48.9	9.4	89	WNW			1		10		W			Raining	Ch. de Kermaree, Dir.
Caen, Normal School	29.97	761.2	30.04	762.9	45.0	7.2	94	SW			3		10		SW			Light rain	M. Bletrin, Director.
Carcassonne, N. School	29.78	756.5	30.21	767.4	42.1	5.6	91	WNW			2		10	WNW	WNW	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'	29.72	755.0	30.10	764.6	34.0	1.1	96	SW			1		10			0	0	Covered	Jadot, Director
Chartres, Normal School	29.62	749.9	30.12	765.0	37.2	2.9	83	SW			3		10			0	0	Covered	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.76	730.4	30.13	765.3	50.5	10.3	59	N			1		2c			0	0		Alluard, Director.
Commercy, Normal School	29.20	741.8	30.10	764.6	34.9	1.1	81	W			4					0	0		Dr. Coullet, Director.
Commune de Gréasque*	28.97	735.8	30.15	765.8	50.5	10.3	54	NW			2		0			0	0		Meyrol for L. Kina, Dir.
Grenoble, Normal School	29.37	746.0	30.15	765.8	48.9	9.4	76	S			1		c			0	0		Ablard, Director.
La Roche-sur-Yon, N. Sch'l	30.02	762.5	30.24	768.1	38.1	3.4	85	WNW			1		5		NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.88	758.9	30.20	767.1	37.4	3	70	SW			3		10		NNW	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.25	742.9	30.19	766.9	39.7	4.3	74	W			1		10n		NW	0	0	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.13	765.2	30.24	768.0	48.6	9.2	76	W			3		5		W	0	0	½ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station	29.55	750.5	30.19	766.8	43.9	6.6	62	SE			1					0	0		Ch. André, Director.
Mâcon, Normal School																			Galxin, Director.
Marseilles, Observatory	29.83	757.7	30.10	764.6	52.3	11.3	61	W			2		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.04	737.5	30.12	765.1	37.4	3	83	NE			3		10			0	0	Covered	Barbier, Director.
Mont-Louis	24.86	631.3	30.17	766.3	42.1	5.6	44	W			3		0			0	0		M. Cave, for Dr. Fines.
Nice	30.04	762.9	30.07	763.8	57.6	14.2	76	SE			2		1	NE	SE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.82	757.4	30.08	764.1	55.2	12.9	66	N			1		0			0	0	Clear	M. Boyer, Director.
Perpignan	30.04	763.0	30.15	765.7	53.8	12.1	44	NW	9.4	4.2			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.54	572.4			33.4	0.8							1		Calm	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	29.11	739.4	30.24	768.1	48.2	9	73	W			1		1	W	W	0	0	Clear	M. Tallieu
Puy de Dome (Summit) Obs	25.16	639.1			30.9	— 0.6	94	W			4		5		W	0.012	0.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.32	770.1	30.35	770.9	39.7	4.3	88	N			1		8	N	N	0.12	3.	¾ covered	Lt E. Decante, Director
Rouen, Normal School	29.94	760.5	30.03	762.7	42.8	6.0	94	W			2		10			0	0	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	30.06	763.4	30.08	764.1	46.9	8.3	79	WSW			4		8	WSW	WSW	0	0	Misty	Lt. Hatrcouet, Director
Saint Maur (near Paris)	29.92	760.0	30.09	764.2	39.0	3.9	83	SW			3		10		SW	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.17	740.9	30.30	769.6	37.4	3	100	W			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.57	751.1	30.30	769.6	37.2	2.9	100	NW			1		10			0	0	Foggy	B. Bailland, Dir.
Tours	30.01	762.3	30.21	767.3	38.1	3.4	83	SW			1		10		W	0	0	Covered	M. de Tastes.
Versailles, Observatory	29.57	751.1	30.07	763.6	40.3	4.6	77	W			2					0.007	0.17		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.42	747.3	30.16	766.0	44.6	7	85	E			1		5			0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	761.0	29.99	761.7	75.9	24.4										0.08	2.		L'Abbé Marchésl
Paris, Montsouris Obs'y	29.80	756.8			37.9	4.3	81	WSW			2		10		W	0	0		Marié Davy, Director
Zi-Ka-Wei (near Shanghai	30.04	762.9	30.07	763.6	46.8	8.2	99	WNW	5.4	2.4		ck	10n	WSW	W	0.268	6.8	Covered	Marc Dechevrens J. S.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second; the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, bat otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,580.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 306.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour	Wind. Velocity Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.92	759.9	37.4	3.0	76	W			8		7k	SW		0	0		Prof. Dr. Hoh.
Berlin	29.42	747.3	29.60	751.8	35.6	2.0	69	W			4		10					Light snow.	Prof. Dr. Arndt.
Breslau	29.25	743.0	29.78	756.4	36.7	2.6	58	SSW			3		10			0	0		Royal University Ob's'y
Carlsruhe	29.55	750.5	29.98	761.6	41.7	5.4	84	SW			4		10	SW		0 081	0.8	Raining	Albert Senz.
Cassel	29.13	740.0	29.74	755.4	34.9	1.6	81	S			2		10	W		0.023	0.59		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.7	30.00	762.1	36.1	2.3	63	SW			3		10			0	0		Physical Society.
Friedrichshafen	28.60	726.4	30.07	763.8	41.9	5.5	72	SW			5		10	SW		0.028	0.7		Chief Telegrapher Wilhelm.
Hamburg	29.35	745.6	29.43	747.4	38.1	3.4	92	SW			9		10			0.079	2.0	Light rain	Dr. Reinhold Kleeman.
Kiel	29.32	744.7	29.34	745.1	39.2	4.0	87	WSW			8		10			0.172	4.36		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.44	747.8	29.53	750.0	32.9	0.5	90	SW			8		10			0.004	0.1	Snowing	Prof. E. Luther.
Köslin			29.43	747.6	34.7	1.5		SW			6		4			0.059	1.5		H. Müller.
Leipsic Observatory	29.33	745.0	29.72	755.0	37.8	3.2	63	SW			5		10	WSW		0	0	Stormy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.43	747.4	29.65	753 1	39.2	4.0	73	SW			5		10ks	W		0	0		Dr. Assmann.
Memel	29.34	745.3	29.39	746.4	32.2	0.1	98	SW			7		10n					Heavy snow	Reinbrecht & Issermann
Munich (München)	28.13	714.6	30.01	762.3	41.2	5.1	63	W			4		9	W		0.012	0 3	Squally	Dr. C. Lang.
Neufahrwasser	29.46	748.2	29.47	748.6	35.2	1.8	82	SW			6		10			0	0		A. Lothes.
Neustadt (Palatinate)	29.31	744.4	29.84	757.7	40.3	4.6	55	W			4		10	WSW		0.024	0.6		Reallehrer Dicknether.
Posen	29.35	745.6	29.65	753.1	39.2	4.0	63	SW			8		10			0	0		Prof. Dr. Magener.
Strassburg (in Alsace)	29.50	749.3	30.07	763.6	45.0	7.2	70	SW			4		10	SW		0	0		Imp. University Observatory.
Stuttgart	29.03	737.4	29.95	760.6	42.4	5.8	70	W			5		8	W		0.043	1.1		Prof. Dr. Schoder.
Thorn	29.53	750.1	29.72	754.8	35.4	1.9	77	SW			5		10			0.008	0.2		Dr. Cunerth.
Weissenburg (Bavaria)	28.42	721.9	29.99	761.8	38.1	3.4	74	W	4.7	2.1		9ck		W	W	0	0		Reallehrer J. Hopfner.
Wustrow	29.26	743.2	29.28	743.8	37.0	2.8	89	SW			8		10s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.73	755.1	30.13	765.3	50.0	10.0		NE			2.0		1k					Clear.	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.91	759.8	29.96	761.1	76.3	24.6	42	W	4	1.8			0			0	0	Blue sky	
Deesa	29.59	751.6	30.07	763.8	75.6	24.2	6	N	14.5	6.5			0			0	0	Blue sky	
Bombay	29.91	759.6	29.95	760.6	75.9	24.4	66	NW	20	8.9			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.3	29.88	758.8	86.3	30.2	21	W	1	0.4			4		SW	0	0	D. clouds	
Belgaum	27.37	695.3	29.89	759.2	79.3	26.3	35	WSW	10	4.5			1		S	0	0	D. clouds	
Lahore	29.27	743.4	30.04	763 0	62.6	17.0	33	W	3.0	1.3			0			0	0	Blue sky	
Roorkee	29.01	736.8	29.94	760.3	68.8	20.4	52	SW	1.7	0.8			1			0	0		
Agra	29.38	746.1	29.95	760.6	76.7	24.8	55	NW	2.3	1.0			0			0	0		
Nagpur	28.83	732.2	29.87	758.6	83.7	28.7	29	NW	3.6	1.6			0			0	0	Blue sky	
Jubbulpore	28.55	724.2	29.86	758.9	79.2	26.3	25	NW	2.9	1.3			0			0	0	Blue sky	
Lucknow	29.52	749.8	29.90	759.5	74.2	23.4	54	SSE	0.5	0.2			0			0	0	Blue sky	
Allahabad	29.56	750.8	29.88	758.9	75.1	23.9	58	Calm	0.0	0.4			0			0	0	Blue sky	
Patna	29.73	755.1	29.91	759.8	76.3	24.6	44	NE	0 6	0.3			2	NE	NE	0 04	1.0		
Hazaribagh	27.83	706.8	29.86	758.4	73.6	23.1	48	WNW	5.9	2.6			5					Raining	
Cuttack	29.78	756.4	29.81	757.2	82.8	28.2	64	S	3.3	1.5			8			0	0	D. clouds	
Calcutta (Alipore)	29.84	758.0	29.86	758.5	78.7	25.9	66	S	3.0	1.3			2		SW	0	0	D. clouds	
Goalpara	29.47	748.5	29.86	758.5	72.8	22.7	46	W	1.1	0.5			0			0	0	Blue sky	
Chittagong	29.81	757.2	29.90	759.5	75.0	23.9	83	W	4.0	1.8			0			0	0		
Sibsagar	29.59	751.6	29.94	760.5	65.8	18.8	73	SE	1.1	0.5			6			0	0	D. clouds	

NOTE. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,500 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.66	753.3	30.08	763.9	45.9	7.7	64	SW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.63	760.1	30.07	763.7	44.2	6.8	85	SW	2.5	1.1	.....	.....	10	WSW	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.97	761.1	30.08	764.0	47.7	8.7	74	SW	2.5	1.1	.....	.....	8	SW	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.18	741.2	30.11	764 8	37.4	3.0	89	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.91	759.7	30.11	764.7	53.6	12.0	60	S	3.8	1.7	.....	.....	8	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	30.08	763.9	39.0	3.9	83	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	30.05	763.2	30.10	764.5	41.4	5.2	89	N	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.85	758.3	30.11	764.9	50.9	10.5	57	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.04	763.1	30.13	765.8	52.2	11.2	55	W	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.93	760.3	30.11	764 9	55.9	13.3	51	WSW	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.84	757.8	30.10	764.4	64.6	18.1	67	NW	10.5	4.7	.....	.....	4	.....	.....	0.087	2.2	.....	Prof. C. De Giorgi.
Cosenza	29.21	742.0	30.11	764.8	55.8	13.2	77	NW	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.87	758.8	30.08	763.9	55.9	13.3	64	S	.....	.....	2	.....	5	E	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.86	758.5	30.12	765.0	54.9	12.7	60	ENE	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Prof. G. Ciaccia tore.
Syracuse	30.07	763.7	30.11	764.8	55.2	12.9	67	E	2.5	1.1	.....	.....	6	SW	.....	0	0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.7	30.13	765.2	53.4	11.9	61	SW	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. F. Brioschi

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.21	767.3	30.22	767.6	48.6	9.2	79	NE	1.6	0.7	.....	ck	10cs;s	.....	.....	0.089	2.26	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.87	758.7	30.08	764.0	54.1	12.3	81	ESE	0.2	0.1	.....	.....	10s	.....	.....	0.160	4.06	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.41	772.4	30.48	774.2	43.8	6.6	82	NNE	3.3	1.5	.....	8ck	0	S	.....	0.025	0.64	Cloudy	The Staff.
Wakayama	30.24	768.1	30.29	769.3	44.4	6.9	80	WNW	2.6	1.2	.....	.....	10s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.02	635.6	30.19	766.9	48.7	6.5	45	SW	.....	.....	1	1c	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.41	619.9	30.14	765.5	55.0	12.8	70	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	Prof. M. Leal.
Mazatlan	29.68	753.9	29.95	760.6	61.5	16.4	82	Calm	.....	.....	0	10cs	0	.....	.....	0	0	Covered	F. Quijano, C. E.
Mexico, Central Observatory	23.03	584.9	30.14	765.5	49.4	8.0	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.00	611.1	.....	.....	59.2	15.1	32	SE	.....	.....	3	3k	0	SE	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.92	607.6	30.01	762.3	48.7	9.3	50	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.37	593.5	30.28	769.2	42.8	6.0	49	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.11	612.4	30.14	765.5	51.8	11.0	58	SE	.....	.....	1	4	0	W	.....	0	0	Hazy	G. Barroeta, M. D.
Tlacotalpam	29.89	759.2	29.90	759.5	73.0	22.8	94	W	.....	.....	2	2	6	W	N	0	0	Cloudy	Prof. M. M. Chazaro.
Vera-Cruz	29.88	759.0	29.91	759.7	73.4	23.0	91	Calm	0	0	.....	.....	10sk	.....	N	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	22.52	572.1	30.26	768.7	51.4	10.8	50	Calm	.....	.....	0	1c	0	SW	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.82	757.4	29.82	757.4	44.1	6.7	.....	W	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Groningen	29.51	749.5	29.56	750.9	41.7	5.4	.....	NW	.....	.....	4	.....	.....	.....	.....	0.110	2.8	.....	
Helder	29.93	752.7	29.93	752.7	42.6	5.9	.....	W	.....	.....	5	.....	.....	.....	.....	0.106	2.7	.....	
Hellevoetsluis	29.77	756.2	29.77	756.2	45.0	7.2	83	W	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Utrecht	29.68	753.9	29 73	755.1	45 9	7.7	80	WSW	.....	.....	5	.....	8	.....	.....	0.047	1.2	Very cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	28.83	732.2	28.88	733.6	38.1	3.4	60	NNW	41.8	18.7	.....	.....	4	.....	.....	0.102	2.6	Snowing.....	
Brönö	28.73	729.8	28.77	730.8	33.8	1.0	65	NNE	27	12	.....	.....	10	.....	.....	0	0	.....	
Christiana	28.59	724.0	28.65	727.7	37 6	3.1	90	SW	0	0	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	28.70	729.0	28.74	730.1	27.7	— 2.4	75	NNW	13	6	.....	.....	10	.....	.....	0.264	6.7	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.10	764.6	30.32	770.0	55.4	13.0	79	NE	.....	.....	5	.....	5	.....	.....	0.315	8.0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.08	764.0	56.5	13.6	80	ENE	7.4	3.3	.....	.....	6	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.84	757.8	29.92	760.0	64.6	18.1	53	SW	6.3	2.8	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.74	755.3	30 10	764.5	56.3	13.5	58	NNE	22.4	10.0	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.11	764.9	30.19	766.7	55.4	13.0	70	ENE	23.0	10.3	.....	.....	3	.....	.....	0.496	12.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. d. Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Q. anza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.80	756.8	78.4	25.8	.....	W	.....	.....	2	.....	3	.....	W	2	W	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa. Porto Praya, Cape Verd Ids.	.....	.....	30.06	763.5	75.2	24.0	.....	NE	.....	.....	1	.....	1	.....	.....	2	ENE	Blue sky.....	A.de SouzaRoza, 2ndL't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello. N. 0° 27′, E. 6° 45′	.....	.....	29.94	760.4	83.7	28.7	.....	SSE	.....	.....	4	.....	10	.....	.....	3	.....	Overcast, 1 hr rain-fall	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimarães, Macao, China	.....	.....	30.08	764.0	64.6	18.1	.....	NNE	.....	.....	2	.....	10	.....	NNE	1	.....	Raining, 6 hr's rain-fall.	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	29.02	737.2	29.04	737.7	30.9	— 0.6	92	SSW	22	10	.....	.....	10	.....	.....	.....	.....	Snow-drift..	Capt. Sseliwerstow.
Astrakhan	30.03	762.7	29.05	760.6	21.0	— 6.1	71	E	11	5	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.84	757.8	30.39	772.0	2.1	—16.6	80	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	29.05	737.9	29.30	744.2	32.2	0.1	92	SSW	13	6	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Ekaterinburg	28.83	732.2	29.82	757.4	25.3	— 3.7	60	W	31	14	.....	.....	9cs	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.73	755.2	30.02	762.6	18.3	— 7.6	59	S	11	5	.....	.....	*3	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	30.03	762.7	30.05	763.2	15.8	— 9.0	94	WNW	7	3	.....	.....	10	.....	.....	.....	.....	Snowing.....	Lagorio.
Kieff	29.21	742.0	29.88	759.0	27.3	— 2.6	70	SW	4	2	.....	c;ck	3ks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Krotkowo*	29.70	754.4	30.22	767.5	14.0	—10.0	54	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjano w.
Lugan	29.70	754.4	29.92	760.0	14.7	— 9.6	74	SE	4	2	.....	.....	9	.....	.....	Blank	Blank	Light clouds	Meteorological Obs
Moscow	29.26	743.1	29.84	757.8	25.9	— 3.4	58	S	10.1	4.5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	27.98	710.8	30.58	776.8	— 5.6	—20.9	55	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.97	761.2	30.04	763.0	26.4	— 3.1	85	NNW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Nukuss	29.86	758.4	30.10	764.6	36.5	2.5	82	ENE	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
St. Petersburg	29.21	741.8	29.22	742.2	33.8	1.0	87	SSW	20	9	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tashkend	28.70	729.0	30.36	771.1	33.8	1.0	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Tiflis	28.42	721.9	29.88	758.9	38.8	3.8	72	N	22	10	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	29.33	744.9	29.77	756.1	31.5	— 0.3	87	SSE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Wilna	29.19	741.3	29.62	752.3	30.6	— 0.8	91	S	13	6	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Yeniseisk	29.90	759.4	30.21	767.4	9.9	-12.3	74	SW	2	1	.....	.....	3	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	30.05	763.2	30 16	766.0	52.5	11.4	64	SSE	5.4	2.42	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.25	768.4	30.31	769.9	47.8	8.8	74	E	0.9	0.41	.....	.....	10	.....	.....	.....	.....	Rainy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.21	691.0	.....	.....	44.1	6.7	61	N	16.2	7.21	.....	0	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.92	709.2	30.19	766 8	50.7	10.4	58	N	5.2	2.33	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.97	761.3	30.13	765.2	54.5	12.5	72	SW	2.2	0.97	.....	5	5	NW	.....	Inap.	Inap.	Misty.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.6	30.19	766 7	52.0	11.1	60	NE	15.4	6.9	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.04	763.0	30.11	764.7	65.1	18.4	67	ESE	2.7	1.2	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Phillippine Islands	29.91	759.8	29.97	761.1	80.7	27.1	80	SE	17.2	7.8	.....	.....	1k	.....	.....	0	0	Fair.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.2	29.99	761.7	58.8	14.9	69	ESE	26.7	11.9	.....	2	5	W	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.7	30.08	764.0	69.4	20.8	86	SW	0	0	.....	0	2k	.....	E	0	0	Clear.	Enrique Gades, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.67	728.3	28.71	729.3	30.2	– 1.0	.....	S	.....	.....	.....	.....	10	.....	.....	.....	.....	Snowing	
Umea	28.59	726.1	28.64	727.4	36.7	2.6	82	SW	.....	.....	.....	.....	10	.....	.....	0.161	4.1	.....	
Hernosand	28.54	725.0	28.59	726.3	36.7	2.6	82	S	.....	.....	.....	.....	10	.....	.....	0	0	.....	
Stockholm	28.67	728.2	28.85	732.7	37.0	2.8	82	SSW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	28.97	735.8	29.03	737.3	35.2	1.8	90	WSW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	28.69	728.7	28.78	730.9	36.9	2.7	93	SSW	15.0	6.7	.....	.....	10	.....	SSW	0.419	10.65	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.4	30.12	765.0	49.5	9.7	59	S	.....	.....	2	.....	4	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.48	722.2	30.11	764.8	42.8	6.0	70	NE	.....	.....	2	.....	7	.....	.....	0.031	0.8	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.7 mm.; Thermometer, +4.7 Cent. Relative Humidity, —18 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople; and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.18	766.5	36.9	2.7	68	N	9	4.0	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.06	763.4	55.8	13.2	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.93	760.3	65.1	18.4	73	SW	.....	.....	3	.....	4n	.....	SW	0.33	8.4	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.56	750.8	29.87	758.7	32	0.0	.....	SW	3	1.3	.....	.....	10n	.....	.....	Inap.	Inap.	Raining	Hon. J. Ferguson.
Chatham, N. B	29.88	758.9	29.95	760.7	30.6	– 0.8	95	S	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.02	762.5	30.06	763.5	31.1	— 0.5	100	S	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.49	749.0	29.68	753.9	43.3	6.3	91	W	.....	.....	1	.....	9s	.....	.....	0.097	2.47	Clearing	James Smith, M. A
Dalhousie, N. B	29.74	755.4	29.91	759.7	26.0	— 3.3	.....	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	35.0	1.7	90	S	20	8.9	.....	.....	10n	.....	.....	0.16	4.1	Fair	J. McWilliams.
Fredericton, N. B	29.02	760.0	29.99	761.7	30.0	— 1.1	92	S	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. Harrison.
Fort Garry, Manitoba	28.86	733.0	29.70	756.7	— 6.0	—21.6	96	N	5	2.2	.....	1c	1s	NW	.....	0.272	6.91	Fair	James Stewart.
Granton, Ontario	28.64	727.4	29.77	756.1	35.0	1.7	100	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	James Grant.
Halifax, N. S	29.97	761.2	30.11	764.5	32.2	0.1	98	SE	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	A. Allison.
Hamilton, Ontario	29.32	744.7	29.70	754.4	39.9	4.4	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.40	746.7	29.74	755.4	37.4	3.0	92	W	3	1.3	.....	.....	Fog	.....	.....	0.14	3.6	Foggy	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	32.2	0.1	98	S	4	1.8	.....	.....	10n	.....	.....	0	0	Foggy	C. H. Rigby.
Montreal, Quebec	29.62	749.8	29.72	754.9	39.0	3.9	85	SW	12	5.4	.....	.....	Haze	.....	.....	0.24	6.1	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nerson.
Norwood, Ontario	28.98	736.1	29.70	754.4	33.0	1.1	100	NW	2	0.9	.....	0	7s	.....	.....	0.68	17.3	Clearing	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.01	736.8	29.73	755.1	33.0	0.6	100	W	3	1.3	.....	.....	Fog	.....	.....	0.80	20.3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	8.4	.....	J. F. Jeffers, M. A.
Port Dover, Ontario	29.05	737.9	29.77	756.1	34.0	1.1	100	SW	7	3.1	.....	.....	Fog	.....	.....	0.47	11.9	Foggy	H. Morgan.
Port Stanley, Ontario	29.11	739.4	29.78	756.4	31.2	— 0.4	99	SW	.....	.....	1	.....	10ks	.....	.....	0.32	8.1	Cloudy	M. Payne.
Quebec, Quebec	29.46	748.3	29.79	756.7	35.0	1.7	100	Calm	.....	.....	0	.....	10n	.....	.....	0.28	7.1	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.18	741.1	29.65	753.1	33.0	0.6	84	Calm	0	0	.....	.....	Fog	.....	.....	0.50	12.7	Foggy	W. H. McIntyre.
St. John, N. B	29.87	758.7	30.04	763.0	33	0.6	89	S	9	4.0	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
Saugeen, Ontario	29.01	736.8	29.74	755.4	35.2	1.8	89	SW	14	6.3	.....	9k	0	SW	.....	0.41	10.4	Clearing	Mrs. K. Stewart.
Stratford, Ontario	28.44	722.4	29.75	755.6	35.1	1.7	85	NW	2	0.9	.....	.....	10s	.....	.....	0.25	6.3	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.10	764.5	30.14	765.5	33.7	0.9	95	Calm	0	0	.....	.....	10n	.....	.....	0	0	Foggy	T. C. Hill, C. E.
Toronto, Ontario	29.36	745.7	29.76	755.9	38.5	3.6	92	W	10	4.5	.....	0	5ks	.....	.....	0.200	5.08	Fair	Magnetic Observatory
Windsor, N. S	29.92	760.0	30.02	762.5	32.0	0.0	90	SE	4	1.8	.....	.....	10n	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	28.67	728.2	29.76	755.9	34.1	1.2	99	W	6	2.7	.....	2k	0	W	.....	0.36	9.1	Fine	Professor Wolverton.
Yarmouth, N. S	29.96	761.0	30.03	762.7	32.5	0.3	91	SE	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	30.11	764.8	30.37	771.4	33	0.6	100	E	.....	.....	.....	.....	Fog	.....	.....	0.50	12.7	Foggy	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.16	766.1	33.8	1.0	.....	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	The Commandant.
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Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.60	751.8	29.84	757.9	40	4.4	91	S	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Alpena, Michigan	29.06	738.1	29.72	754.9	32	0.0	89	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.78	731.0	29.90	759.4	62	16.7	83	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atlantic City, New Jersey	29.86	758.4	29.87	758.7	46	7.8	92	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Augusta, Georgia	29.86	758.4	30.06	763.5	56	13.3	87	Calm	0	0	.....	8cs	0	SW	.....	0	0	Fair.....	
Baltimore, Maryland	29.81	757.2	29.86	758.4	55	12.8	81	SW	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Barnegat, New Jersey	29.85	758.2	29.87	758.7	45	7.2	100	S	7	3.1	.....	.....	10s;fog	.....	Calm	Inap.	Inap.	Light rain..	
Bismarck, Dakota	27.72	704.1	29.58	751.3	27	— 2.8	88	NW	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Boerne, Texas	28.47	723.1	29.76	755.9	58	14.4	58	W	2	0.9	.....	0	5s	.....	W	0	0	Cloudy.....	
Boise City, Idaho	26.93	684.0	29.89	759.2	37	2.8	71	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Boston, Massachusetts	29.77	756.1	29.93	760.2	43	6.1	83	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Threatening	
Brackettville, Texas	28.75	730.2	29.80	756.9	56	13.3	57	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Breckenridge, Minnesota	28.56	725.4	29.60	751.8	16	— 8.9	100	N	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
Brownsville, Texas	29.86	758.4	29.91	759.7	69	20.6	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Buffalo, New York	29.06	738.1	29.76	755.9	38.5	3.6	96	SW	5	2.2	.....	.....	Fog	.....	Calm	0.54	13.7	Dense fog....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.48	748.8	29.77	756.1	44	6.7	84	S	9	4.0	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Cairo, Illinois	29.48	748.8	29.86	758.4	52	11.1	86	S	5	2.2	.....	5ck	Fog	SW	.....	0.15	3.8	Fair.....	
Campo, California	27.36	694.9	29.93	760.2	28	— 2.2	88	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	61	16.1	88	SW	18	8.0	.....	Haze	Haze	.....	.....	0.01	0.3	Hazy.....	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	59	15.0	82	S	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear.....	
Cape Lookout, N. Carolina	30.05	763.3	30.07	763.8	60	15.6	94	SW	22	9.8	.....	5c	0	W	.....	0	0	Clear.....	
Cape May, New Jersey	29.84	757.9	29.86	758.4	48	8.9	85	S	18	8.0	.....	.....	10s	.....	Calm	0	0	Fair.....	
Castroville, Texas	29.13	739.9	29.82	757.4	59	15.0	59	NW	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Cedar Keys, Florida	30.11	764.8	30.13	765.3	66	18.9	89	S	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Charleston, South Carolina	30.02	762.5	30.08	764 0	60	15.6	88	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Charlotte, North Carolina	29.11	739.4	29.91	759.7	59	15.0	76	S	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Chattanooga, Tennessee	29.13	739.9	29.92	760.0	56	13.3	63	SW	14	6.3	.....	0	5cs	.....	SW	0.43	10.9	Clearing.....	
Cheyenne, Wyoming	23.62	599.9	29.56	750.8	28	— 2.2	88	W	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	
Chicago, Illinois	29.00	736.6	29.69	754.1	40	4.4	65	SE	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Cincinnati, Ohio	29.16	740.7	29.80	756.9	55	12.8	81	SW	3	1.3	.....	0	8ks	.....	SW	0.55	14.0	F lr....	
Cleveland, Ohio	29.07	738.4	29.78	756.4	47	8.3	92	NW	5	2.2	.....	.....	10s	.....	W	0.40	10.2	Cloudy.....	
Coleman City, Texas	28.10	713 7	29.79	756.7	44	6.7	60	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Columbus, Ohio	28.93	734.8	29.75	755.6	52	11.1	79	SW	2	0.9	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy.....	
Concho, Texas	28.00	711.2	29.98	761.5	49	9 4	81	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Corsicana, Texas	29.41	747.0	29.88	758.9	55	12.8	50	S	12	5.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Davenport, Iowa	28.98	736.1	29.62	752.3	37	2.8	81	S	6	2.7	.....	0	5s	.....	SW	0	0	Fair.....	
Dayton, Washington T'y	.....	.....	.....	.....	33	0.6	69	W	.....	.....	1	10k	0	NW	.....	0	0	Cloudy.....	
Deadwood, Dakota	24.91	632.7	.....	.....	23	— 5.0	60	Calm	0	0	.....	.....	10s	.....	W	0.02	0.5	Cloudy.....	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Delaware Breakwater, Del	29.85	758.2	29.87	758.7	50	10.0	93	SW	10	4.5	.....	5k	0	W	.....	0	0	Fair.....	
Denison, Texas	29.02	737.1	29.80	756.9	51	10.6	59	SW	10	4.5	.....	0	1s	.....	Calm	0	0	Clear.....	
Denver, Colorado	24.37	619.0	29.59	751.6	39	3.9	46	SW	5	2.2	.....	5ck	2s	W	Calm	0	0	Fair.....	
Des Moines, Iowa	28.68	728.5	29.57	751.1	33	0.6	70	Calm	9	0	.....	0	Sm'e	.....	Calm	0.	0	Smoky.....	
Detroit, Michigan	29.08	738.6	29.76	755.9	36	2.2	90	W	3	1.3	.....	0	8s	.....	Calm	0.05	1.3	Fair.....	
Dodge City, Kansas	27.08	687.8	29.41	747.0	28	— 2.2	54	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	28.94	735.1	29.64	752.8	31	— 0.6	79	S	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	28.92	734.6	29.61	752.1	24	— 4.4	87	NE	18	8.0	.....	.....	10n	.....	NE	0.01	0.3	Light snow..	
Eagle Pass, Texas	29.14	740.1	29.85	758.2	66	18.9	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Eastport, Maine	29.92	760.0	29.99	761.7	36	2.2	90	S	7	...	.....	.....	10s	.....	S	0	0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	80	Calm	.....	.....	0	0	5s	.....	S	0	0	Fair.....	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.08	738 6	29.79	756.7	49	9.4	86	SW	4	1.8	.....	.....	10s	.....	SW	0.28	7.1	Cloudy.....	
Escanaba, Michigan	29.06	738.1	29.74	755.4	24	— 4.4	74	E	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy.....	
Florence, Arizona	28.47	723.1	30.07	763.8	40	4.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Apache, New Mexico	24.95	633.7	30.40	772.1	26	— 3.3	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	27.62	701.5	29.53	750.0	16	— 8.9	83	NW	5	2.2	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Fort Custer, Montana	26.44	671.6	.....	.....	25	— 3.9	100	E	11	4.9	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Fort Davis, Texas	25.09	637 3	30.05	763.3	37	2.8	53	Calm	0	0	.....	2cs	0	W	.....	0	0	Fair.....	
Fort Elliot, Texas	26.72	678.7	28.94	735.1	44	6.7	45	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.18	741.1	29.72	754.9	46	7.8	47	S	4	1 8	.....	0	0	.....	.....	0	0	Clear.....	
Fort Grant, Arizona	25.09	637.3	29.89	759.2	34	1.1	53	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	28.56	725.4	29.83	757.7	48	8.9	49	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Fort Keogh, Montana	26.92	683.8	.....	.....	26	— 3.3	77	N	2	0.9	.....	0	5s	.....	Calm	0	0	Fair.....	
Fort McKavett, Texas	27.64	702.0	29.58	751.3	43	6.1	59	W	3	1.3	.....	9ck	0	W	.....	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.54	724.9	29.65	753.1	42	5.6	42	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair.....	
Fort Stevenson, Dakota	27.73	704.3	.....	.....	20	— 6.7	85	N	10	4.5	.....	8c	0	W	.....	0	0	Cloudy.....	
Fort Verde, Arizona	.....	.....	.....	.....	30	— 1.1	68	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28 10	713.7	29.66	753.4	52	11.1	73	SW	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	29.91	759.7	29.95	760.7	62	16.7	94	S	1	0.4	.....	5c	0	W	.....	0.14	3.6	Fair.....	
Grand Haven, Michigan	29.08	738.6	29.74	755.4	36	2.2	80	SE	4	1.8	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy.....	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	28.98	736.1	29.75	755.6	48	8.9	85	E	3	1.3	.....	0	0	.....	.....	0.76	19.3	Clear.....	
Indianola, Texas	29.92	760.0	29.95	760.7	62	16.7	88	Calm	0	0	.....	5c	0	W	.....	0.06	1.5	Fair.....	
Jacksboro, Texas	28.71	729 2	29.84	757.9	50	10.0	65	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Jacksonville, Florida	30.11	764.8	30.14	765.5	62	16.7	83	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Keokuk, Iowa	28.97	735.8	29.57	751.1	49	9.4	64	SW	13	5.8	.....	0	2s	.....	Calm	0	0	Clear.....	
Key West, Florida	30.10	764.5	30.13	765.3	71	21.7	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Kittyhawk, North Carolina	29.99	761.7	30.01	762.2	57	13.9	94	SW	18	8.0	.....	.....	Haze	.....	Calm	0	0	Clear.....	
Knoxville, Tennessee	28.90	734.0	29.88	758.9	58	14.4	97	SW	12	5.4	.....	0	10n	.....	SW	1.13	28.7	Heavy rain..	
La Crosse, Wisconsin	28.86	733.0	29.60	751.8	31	— 0.6	79	Calm	0	0	.....	5cs	2s	Calm	Calm	0	0	Fair.....	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	33	0.6	61	SE	1	0.4	.....	0	5s	.....	Calm	0	0	Fair.....	
Laredo, Texas	29.53	750.0	29.87	758.7	65	18.3	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Leavenworth, Kansas	28.76	730.5	29.60	751.8	39	3.9	73	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Lewiston, Idaho	.....	.....	.....	.....	32	0.0	79	W	6	2.7	.....	5k	5s	Calm	Calm	0.02	0.5	Cloudy.....	
Little Rock, Arkansas	29.52	749.8	29.88	758.9	52	11.1	86	SW	8	3.6	.....	10ck	0	SW	.....	0	0	Cloudy.....	
Los Angeles, California	29.66	753.4	30.00	762.0	43.5	6.4	88	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.25	742.9	29.80	756.9	55	12.8	81	S	5	2.2	.....	5k	2s	SW	Calm	0.46	11.7	Fair.....	
Lynchburg, Virginia	29.23	742.4	29.90	759.4	54	12.2	67	S	1	0.4	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain...	
Madison, Wisconsin	28.63	727.2	29.62	752.3	33	0.6	70	SE	6	2.7	.....	2c	0	W	.....	0	0	Fair.....	
Marquette, Michigan	29.01	736.8	29.73	755.1	24	— 4.4	74	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Mason, Texas	28.27	718.0	30.04	763.0	49	9.4	64	NW	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Memphis, Tennessee	29.56	750.8	29.90	759.4	50	10.0	93	SE	8	3.6	.....	10s	0	S	.....	0.27	6.9	Cloudy	
Milwaukee, Wisconsin	28.95	735.3	29.68	753.6	35	1.7	80	S	5	2.2	.....	0	Sm'e	.....	.....	Inap.	Inap.	Clear	
Mobile, Alabama	29.97	761.2	30.01	762.2	63	17.2	94	S	4	1.8	.....	2c	8s	W	SW	0	0	Cloudy	
Montgomery, Alabama	29.74	755.4	29.97	761.2	68	20.0	90	S	13	5.8	.....	0	8n	.....	SW	Inap.	Inap.	Light rain	
Morgantown, West Virginia	28.79	731.3	29.74	755.4	59	15.0	88	Calm	0	0	.....	.....	10ks	.....	W	0.56	14.2	Cloudy	
Mt. Washington, N. H.	23.57	598.7	29.93	760.2	34	1.1	100	W	60	26.8	.....	.....	Fog	.....	W	0	0	Foggy	
Nashville, Tennessee	29.38	746.2	29.92	760.0	54	12.2	93	SW	1	0.4	.....	0	5ks	.....	SW	0.84	21.3	Fair	
New Haven, Connecticut	29.76	755.9	29.88	758.9	44	6.7	100	NE	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
New London, Connecticut	29.81	757.2	29.86	758.4	46	7.8	92	SE	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	68	20.0	90	SW	3	1.3	.....	5k	Haze	SW	Calm	0.01	0.3	Fair	
Newport, Rhode Island	29.88	767.7	29.88	758.9	48	8.9	93	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	59	15.0	94	SW	.....	.....	2	8c	Fog	W	SW	.....	.....	Cloudy	
New York, New York	29.70	754.4	29.88	758.9	45	7.2	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.14	3.6	Foggy	
Norfolk, Virginia	29.90	759.4	29.96	761.0	58	14.4	82	SW	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
North Platte, Nebraska	26.66	677.2	29.26	743.2	25	— 3.9	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	39.0	3.9	64	SW	21	9.4	.....	0	2ks	.....	NW	0.04	1.0	Fair	
Omaha, Nebraska	28.39	721.1	29.48	748.8	34	1.1	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.46	748.0	29.77	756.1	44	6.7	92	SW	4	1.8	.....	0	0	.....	.....	0.34	8.6	Clear	
Pembina, Dakota	28.76	730.5	29.70	754.4	—12	—24.4	100	NW	5	2.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Pensacola, Florida	30.02	762.5	30.05	763.3	66	18.9	95	S	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.79	756.7	29.84	757 9	47	8.3	85	E	3	1.3	.....	.....	10s;fg	.....	Calm	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.81	731.8	30.68	779.3	39	3.9	64	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.24	437.9	29.45	748.0	— 4	—20.0	100	W	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.24	742.7	30.07	763.8	53	11.7	60	NW	16	7.2	.....	2k	0	N	.....	0	0	Fair	
Pioche, Nevada	29.86	606.0	29.64	752.8	30	— 1.1	57	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.98	736.1	29.76	755.9	56	13.3	75	W	4	1.8	.....	0	5s	.....	W	0.06	1.5	Fair	
Port Huron, Michigan	29.08	738.6	29.75	755.6	37	2.8	81	W	3	1.3	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Portland, Maine	29.88	758.9	29.94	760.5	41	5.0	82	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.10	764.5	30.18	766.6	39	3.9	82	S	10	4.5	.....	.....	10n	.....	W	0.04	1.0	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	94	SW	16	7.2	.....	5cs	C	Calm	.....	0	0	Fair	
Prescott, Arizona	24.67	626.6	30.03	762.7	26	— 3.3	75	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	65	18.3	84	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.73	755.1	30.10	764.5	40.5	4.7	91	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.94	760.5	56	13.3	69	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.13	739.9	29.74	755.4	49	9.4	78	SW	5	2.2	.....	0	2s	.....	Calm	0.13	3.3	Clear	
Roseburg, Oregon	29.69	754.1	30.28	769.1	42	5.6	91	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Sacramento, California	30.00	762.0	30.07	763.8	41	5.0	91	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.16	740.7	29.73	755.1	50	10.0	79	S	14	6.3	.....	1ck	0	Calm	.....	0.53	13.5	Clear	
St. Paul, Minnesota	28.72	729.5	29.56	750.8	29	— 1.7	78	SE	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear	
Salt Lake City, Utah	25.37	644.4	29.70	754.4	39	3.9	64	SW	15	6.7	.....	.....	10ks	.....	W	0.04	1.0	Cloudy	
San Antonio, Texas	29.25	742.9	29.82	757.4	62	16.7	61	SW	3	1.3	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
San Diego, California	29.95	760.7	30.03	762.7	44	6.7	92	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.11	739.4	29.78	756.4	46	7.8	84	W	6	2.7	.....	2cs	8s	Calm	Calm	0.36	9.1	Cloudy	
Sandy Hook, New Jersey	29.84	757.9	29.87	758.7	45	7.2	92	SW	6	2.7	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
San Francisco, California	30.02	762.5	30.09	764.3	46	7.8	92	S	1	0.4	.....	0	Fog	.....	S	Inap.	Inap.	Clear	
Santa Fé, New Mexico	28.26	590.8	29.80	756.9	14	—10.0	46	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.02	762.5	30.12	765.0	61	16.1	82	S	9	4.0	.....	1ck	Sm'e	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.67	753.6	29.89	759.2	55	12.8	93	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.05	763.3	30.09	764.3	61	16.1	82	S	14	6.3	.....	5k	Haze	SW	.....	0	0	Fair	
Socorro, New Mexico	25.28	642.1	29.35	745.5	25	— 3.9	50	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.05	737.9	29.71	754.6	46.5	8.1	73	S	10	4.5	.....	.....	0	.....	.....	0.16	4.1	Clear	
Springfield, Massachusetts	29.74	755.4	29.87	758.7	39	3.9	91	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Stockton, Texas	29.92	683.8	29.92	760.0	45	7.2	24	NE	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Thatcher's Island, Mass.	29.86	758.4	29.91	759.7	43	6.1	92	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Threatening	
Toledo, Ohio	29.09	738.9	29.77	756.1	43	6.1	75	W	4	1.8	.....	10k	0	SW	.....	0.31	7.9	Cloudy	
Tucson, Arizona	27.61	701.3	30.10	766.1	36	2.2	70	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.58	751.3	30.09	764.3	36.5	2.5	67	W	14	6.3	.....	0	5ks	.....	NW	0	0	Fair	
Uvalde, Texas	29.92	787.1	29.89	757.7	58	14.4	58	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Vicksburg, Mississippi	29.71	754.6	29.97	761.2	58	14.4	97	S	5	2.2	.....	0	5s	.....	SW	0.68	17.3	Fair	
Virginia City, Montana	23.76	603.5	29.24	742.7	22	— 5.6	72	SW	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Visalia, California	29.65	753.1	30.02	762.5	47	8.3	72	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.75	755.6	29.87	758.7	55	12.8	74	S	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	29	— 1.7	89	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.97	761.2	30.05	763.3	62	16.7	77	SW	10	4.5	.....	10ck	0	Calm	.....	0	0	Cloudy	
Winnemucca, Nevada	25.58	649.7	29.94	760.5	32	0.0	79	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Massachusetts	29.87	758.7	29.91	759.7	48	8.9	77	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.24	717.3	29.53	750.0	35	1.7	70	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.81	757.2	29.96	761.0	43	6.1	75	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	21.97	558.0	.....	.....	59.5	15.3	66	Calm	.....	.....	0	2k	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.00	762.0	30.05	763.3	70	21.1	56	E	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	82	27.8	73	SE	4	1.8	.....	2c	0	SE	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	77	25.0	91	E	.....	.....	2	.....	8ks	E	.....	0.760	19.30	Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.86	745.7	29.91	759.7	82	27.8	76	N	.....	.....	3	.....	2s	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.28	769.1	30.35	770.4	—29.0	—33.9	.....	NW	7	3.1	.....	2c	0	N	.....	0	0	Fair	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,017.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,208 (?) ft., or 1,586 (?) m.; Fort Elliot, 2,500 (?) feet, or 762 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m., Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 m.; Silver City, 6,898 (?) ft., or 2,103 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.18 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.08‡	764.0‡			65	18.3	94	S	9	4.0			2		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H	29.93‡	760.2‡			40	4.4	91	SE	2	0.9			10							Overcast	
Naval Hospital, Yokohama, Japan	30.46‡	773.7‡			44.6	7.0	79	N			1	clr	7k		W	Slight	Slight			Cloudy	
Adams, N. 10° 48′, W. 87° 28′	29.91‡	759.7‡			86	30.0	82	ENE			4–5		1		ENE			Smooth	ESE	Clear	
Colorado, New York, N. Y.	29.80‡	756.9‡			44	6.7		Calm	0	0			0			0	0			Foggy	
Constitution, As inwall, Panama	29.88‡	758.9‡			78	25.6	86	NNE			4		8		NNE			Mod'ate	NNE	Showery	
Enterprise, Naples, Italy	30.17‡	766.3‡			55	12.8	62	Calm			0		8		SSW			Smooth		Cloudy	
Franklin, Off Navy Yard, Norfolk, Va.	29.95‡	760.7‡			60	15.6	77	SW	9.6	4.3			1		Calm	0	0			Clear	
Independence, Mare I'd, Navy Yard, Cal.	30.09‡	764.3‡			45	7.2	100	NW	2.4	1.1			2		NW	0	0			Foggy	
Kearsarge, Boca del Toro, Chiriqui	29.97‡	761.2‡			75	23.9	81	W			1		5		W			Smooth		Fair	
Lackawana, Navy Yard, Mare I'd., Cal.	30.10‡	764.5‡			50	10.0	86	NW			0–1		10							Foggy	
Marion, S. 34° 56′, W. 55° 55′	29.93‡	760.2‡			70	21.1	75	ESE			3		2		S;E	0	0	Smooth		Clear	
Michigan, Erie, Pa.	29.76‡	755.9‡			44	6.7	68	W			4		10		W					Cloudy	
Minnesota, New London, Conn.	29.85‡	758.2‡			47	8.3		Calm			0		10							Cloudy	
Monocacy, Shanghai, China.	30.04‡	763.0‡			49	9.4	93	NW			1		10		E					Overcast	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			60	15.6	88	SSW	12	5.4			2		SW	0	0			Clear	
Nipsic, N. 27° 01′ W. 68° 05′	30.15‡	765.8‡			67	19.4	60	NNW			4		5					Mod'ate Long	N	D. clouds	
Onward, Callao, Peru †.	29.85‡	758.2‡			69	20.6	95	Calm			0		10					Long	W	Foggy	
Palos, Tientsin, China	30.22‡	767.6‡			37	2.8	100	E			1		10							Overcast	
Passaic, Washington, D. C.	29.84‡	757.9‡			56	13.3	87	SSW			2		10							Cloudy	
Pensacola, Panama, Panama	29.85‡	758.2‡			73	22.8	90	Calm			0		8					Smooth		Hazy	
Powhatan, Norfolk, Va.	29.97‡	761.2‡			59	15.0	86	SSW			0–1		0							Clear	
Quinnebaug, Leghorn, Italy	30.08‡	764.0‡			55	12.8	56	SW			2		0							Clear	
Richmond, Hong-Kong, China	29.94‡	760.5‡			60	15.6	100	E			1		10			0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	30.05‡	763.3‡			65	18.3	100	Calm	0	0			10		Calm	0	0			Cloudy	
Santee, Annapolis, Md	29.87‡	758.7‡			58	14.4	76	W			2		10		W	0	0			Cloudy	
Shenandoah, Montevideo, Uruguay	30.08‡	764.0‡			73	22.8	81	NNE			1		5		NNE			Smooth		Fair	
St. Louis, League Island, Pa.	29.78‡	756.4‡			45	7.2	92	Calm	0	0			10		SW	0	0			Cloudy	
Swatara, N. 37° 06′, E 5° 20′	30.04‡	763.0‡			57	13.9	87	E			3		10		E			Mod'ate	E	Cloudy	
Tennessee, Norfolk, Va.	29.96‡	761.0‡			58	14.4	82	SW	8	3.6			2		NW			Smooth		Hazy	
Trenton, Toulon, France	30.15‡	765.8‡			62	16.7	46	WNW			3		0			0	0			Clear	
Tuscarora, Acapulco, Mexico	29.90‡	759.4‡			75	23.9	77	Calm			0		0			0	0	Smooth		Clear	
Vandalia, Navy Yard, Brooklyn, N.Y	29.87‡	758.7‡			44	6.7	92	Calm			0		Fog							Foggy	
Wabash, Boston, Mass.	29.90‡	759.4‡			42	5.6	83	Calm	0	0			10			0	0			Foggy	
Wachusett, Montevideo, Uruguay †	30.42‡	772.7‡			72	22.2	85	NE			2		8		N			Smooth	N	Cloudy	
Wyoming, Naples, Italy	30.12‡	765.0‡			54	12.2	55	SSW			2		2		SW			Smooth	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡ Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer.																			
S. S. Moravian, J. Grahani, N. 46° 16′, W. 45° 50′	30 44‡	773.2‡	47	8.3	77	SSE			3		5		SW	0	0	Long	SSW	Fair	John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton N. 38° 30′, W. 72° 00′	29.92‡	760.0‡				S			6		5		W			Slight	S	Fair	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.																			
AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr
S. S. Indiana, R. W. Sargent St. George's Channel, Eng	30.03‡	764.3‡	46	7.8	92	W			7		6		W	0	0			Fair	
S. S. Ohio, Henry Morrison, N. 50° 09′, W. 23° 26′	30.59‡	777.0‡	54	12.2		N			2		8		N	Blank	Blank	Light	SW	Cloudy	Wm. Shackford.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.																			
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger.																			
NOTE—The originals give the wind-force by the scale 0 to 12.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.
NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 42° 10′, W. 61° 49′	30.07‡	763.8‡	52.0	11.1	??	Calm			0		0			0	0	Mod'ate	E	Clear	S. Risius.
S. S. Ohio, G. Meyer,																			
NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Hong Kong, China	30.02‡	762.6‡	60	15.6	100	ESE			2		10		ESE					Showery	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.	30.03‡	762.7‡				Calm			0		k		SE	Misty	Misty	Smooth		Misty	J. A. Thompson.
S. S. Oceanic, Metcalf																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
NOTE.—The orginals give the wind-force by the scale 0 to to 12.																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander, N. 32° 41′, W. 117° 14′	30.04‡	763.0‡	55	12.8		SW			2		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			
NOTE.—The originals give the wind-force by the scale 0 to 12.																			

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, Punta Arenas, Costa Rica†	29 93‡	760 2‡	78	25.6	91	Calm	.....	.....	0	.....	2	.....	E	0	0	Smooth	ENE	Clear.	F. A. Johnston.
S. S. China, W. B. Seabury..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Chester, E. Polemann	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Polemann.
S. S. City of Panama, M. Connolly, Panama.....†	29.83‡	757.7‡	72	22.2	.....	NW	.....	.....	1	.....	8	.....	NW	0	0	Smooth	.....	Cloudy.....	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C Dearborn..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. City of Tokio, J. Maury	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. LeSack.
S. S. Colima, R. R. Searle, N. 19° 05', W. 105° 02'†....	29.87‡	758.7‡	71	21.7	95	NE	.....	.....	1-2	.....	4	.....	Calm	0	0	Mod'ate Heavy	NW	D. clouds.....	.....
S. S. Dakota, D. E. Griffiths	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utsalady, Washington Ty...†	29.95‡	760.7‡	40	4.4	.....	NW	.....	.....	3	.....	5	.....	.....	Fog	Fog	.....	.....	Clear.....	D. E. Griffiths.
S. S. Granada, J M Cavarly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Zealandia, R. C. Ghest, N. 14° 14', W. 160° 56'.....	29 94*	760.5‡	.....	.....	.....	Var.	.....	.....	.....	.....	.....	.....	SE	.....	.....	Heavy	NE	Rainy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Nederland, S. Stokes. N. 47° 14', W. 27° 37'...†..	30.60‡	779.6‡	54	12.2	.....	NNE	2	0.9	.....	.....	5	.....	NNE	0	0	Mod'ate	W	Fine.....	J. Farmer & W. Apetan.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Jennings.
S. S. Britanic, H. Perry,... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jones.
S. S. Celtic, B. Gleadell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Republic, P. J. Irving..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Ryder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley.....	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mehaffey.
Schr. Adale Fuller, J. Jorgensen.....	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S 37° 30', E. 132° 56'... .'.	30.02‡	762.5‡	66	18.9	.....	ESE	.....	.....	4	.....	10	.....	ESE	.....	.....	Smooth	.....	Cloudy.	B. F. Woodbury.
Brigantine George, W. H. Caamplin.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Cross, W. Randall, N. 16° 42', W. 40° 12'.....	30.05‡	763.3‡	74	23.3	76	NE	.....	.....	4	.....	7	.....	NE	0	0	Mod'at.	NNE	D. clouds.....	W. Randall.
Barque Syringa, E. Lewis ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Lewis.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

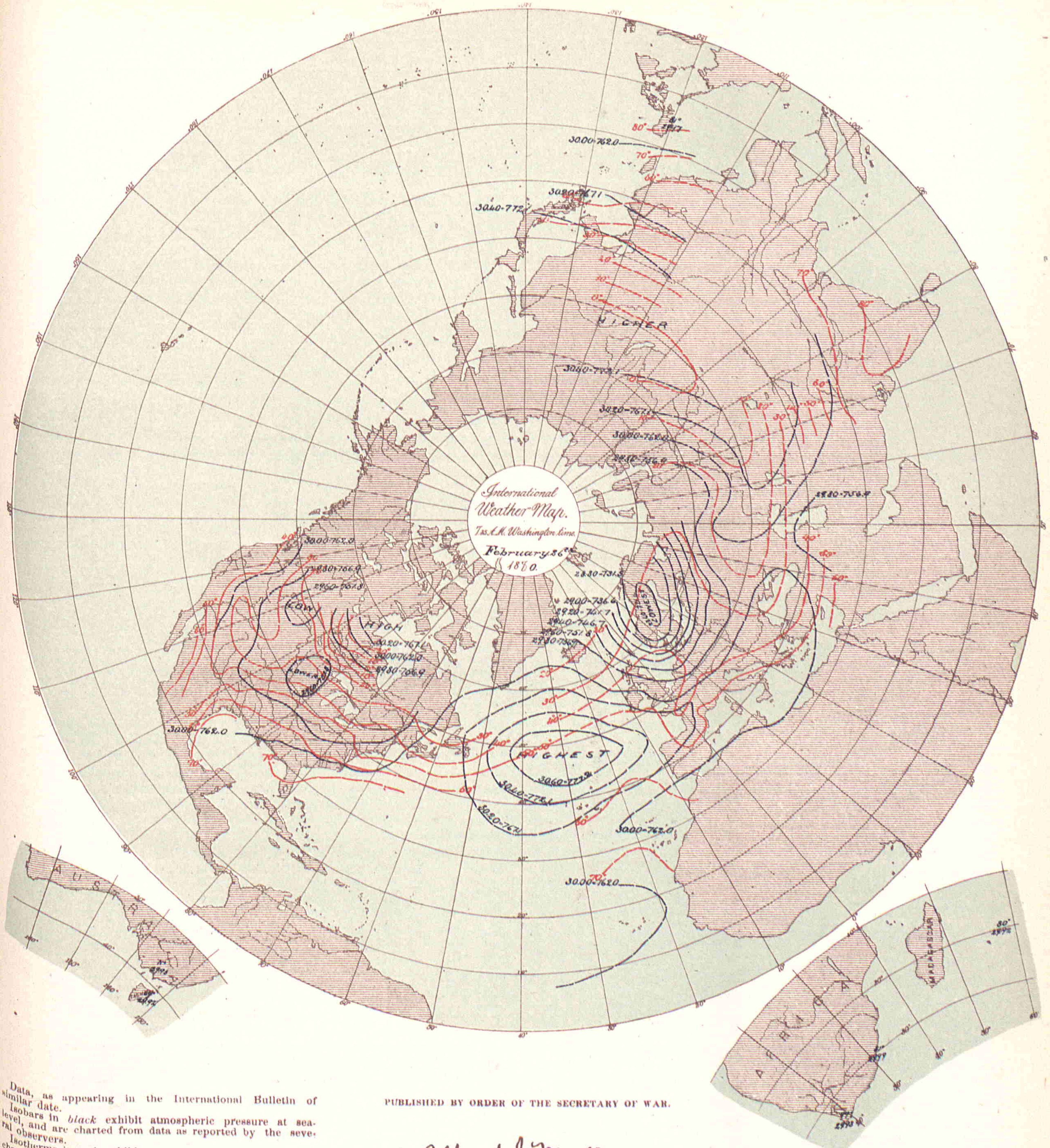
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given: D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 27, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.89	759.3	.....	.....	.....	NW	.....	.....	.....	.....	8	.....	.....	0.039	1.0	Very cloudy	
Nemours	.....	.....	29.84	758.0	61.2	16.2	79	E	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.87	758.7	55.4	13.0	74	NE	.....	.....	5	.....	10	.....	.....	0.146	3.7	Covered	Touriliere.
La Calle	.....	.....	29.85	758.2	57.6	14.2	78	SE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	29.82	757.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.80	756.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	29.86	758.5	54.5	12.5	78	WNW	.....	.....	1	.....	8	.....	.....	0.138	3.5	Very cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	29.84	757.8	65.1	18.4	46	SW	.....	.....	1	.....	10	.....	.....	0.197	5.0	Covered	Bertrand.
Biskra	.....	.....	29.74	755.5	63.0	17.2	92	E	.....	.....	1	.....	8	.....	.....	0.039	1.0	Very cloudy	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.15	740.3	29.71	754.5	43.2	6.2	84	W	.....	.....	3	.....	10	.....	.....	0.067	1.7	Raining	Prof. Ivan Stoxir.
Cracow, I. R. Observatory	28.77	730.8	29.56	750.7	35.6	2.0	82	W	16.6	7.4	.....	.....	10	.....	.....	0.028	0.7	.....	Dr. Wierzbicki.
Eperies	28.66	727.9	29.55	750.6	36.7	2.6	82	S	.....	.....	2	.....	10s	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.45	722.5	29.72	754.8	43.0	6.1	61	WNW	.....	.....	4	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.24	717.3	29.71	754.5	37.8	3.2	81	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling
Kremsmünster, Observatory	28.40	721.3	29.78	756.3	36.3	2.4	75	SW	.....	.....	3	.....	9	.....	.....	0.039	1.0	.....	The Staff.
Lemberg	28.49	723.7	29.50	749.3	35.6	2.0	75	SW	.....	.....	2	.....	2	.....	.....	0.031	0.8	.....	Dr. T. Stanecki.
Pola	29.63	752.7	29.75	755.6	46.2	7.9	85	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.25	742.9	29.72	755 0	38.1	3.4	70	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.36	745.7	29.64	752.9	42.1	5.6	79	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.65	753.2	29.76	755 8	44.1	6.7	98	Calm	.....	.....	0	.....	10	.....	.....	0.150	3.8	Raining	P. Busin.
Vienna	28.99	736.4	29.72	755.0	40.6	4.8	59	W	.....	.....	5	.....	4	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Treiste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.63	752.7	29.84	758.0	40.3	4.6	58	WNW	.....	.....	3	4	6	NW	NW	0.010	0.25	.....	Royal Observatory
Furnes	29.84	758.0	29.87	758.6	45.3	7.4	66	NNW	.....	.....	3	.....	8	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.71	754.5	29.83	757.7	37.2	2.9	84	NNW	.....	.....	4	.....	10	.....	.....	0.354	9.0	Snowing	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D. C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.42	747.3	29.52	749.8	38.3	3.5		SSW	8	3.6			9			0.070	1.78	Overcast	W. Boswell.
Ardrossan	29.60	751.8	29.62	752.3	44	6.7		WSW			2		9					Raining	G.Carrick.
Armagh, (Observatory)	29.51	749.5	29.74	755.4	44.4	6.9		SW	16	7.2			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.76	755.9	43.8	6.6		WSW	34	15.2			10					Overcast	John Hartnup.
Bolton (Sharples)	29.20	741.7	29.72	754.9	41.7	5.4		WSW	36	16.1			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.70	754.4	43.0	6.1	83	SW			3		10			0.02	0.5	Overcast	J McLandsborough.
Bridgetown, Barbadoes	29.91	759.7	29.94	760.5	77	25.0		NE			2		2					D. clouds	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.72	754.9	29.82	757.4	45.0	7.2		WNW			1		10					Overcast	H. Todd.
Cardington			29.79	756.7	47.0	8.3		W			4		7					D. clouds	John McLaren.
Chatham (School M. E.)	29.80	756.9	29.94	760.5	45.6	7.6		NW			0		9k					Misty	Lance Corp'l Hocker, R. E.
Dorchester	29.66	753.4	29.71	754.6	45	7.2		W			4		10					Drizzling	J. Mac Gowan.
Dover	29.82	757.4	29.85	758.2	45	7.2		W			3		4					½ clouded	J. Costello.
Falmouth (Observatory)	29.80	756.9	30.03	762.7	45.9	7.7		WNW			3		10					Overcast	The Staff.
Fort Napier, Natal	27.62	701.5	29.84	757.9	78.4	25.8		NW			2		0					Blue sky	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.65	753.1	29.88	758.9	85	29.4		E			1		3k						
Galway (Queen's College)			29.75	755.6	47.5	8 6		WSW			5		10					Misty	M J. O'Donaghue.
Gibraltar, Mediterranean.§	29.76	755.9	29.81	757.2	56.8	13.8		E			5		9					Overcast	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.38	746.2	29.58	751.3	43.8	6.6		W			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.78	756.4	29.79	756.7	42	5.6		NW			3		4					Misty	G. T. Watson.
Greenwich (Royal Obs'y)	29.68	753.9	29.80	756.4	46.6	8.1		W					8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.78	756.4	30.01	762.2	46.5	8.1		WNW			3		7					D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	30.17	766.3	30.29	769.4	48	8.9		NW			2		4k					Showery	M. P. Moyle.
Holyhead	29.73	755.1	29.80	756.9	46	7.8		WSW			3		10					Overcast	John Tilston.
Jersey	29.76	755.9	30.06	763.5	47.0	8.3		WNW			3		5					D. clouds	J. Fisher.
Kew (Observatory)	29.83	757.7	29.87	758.7	46.0	7.8		W	24	10.7			8					D. clouds	The Met'g'l Office.
Leicester (Museum)	29.54	750.3	29.80	756.9	44.9	7.2		NW			2		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.69	754.1	29.77	756.1	56	13.3		E			4		10kn			Blank	Blank	Overcast	A. King.
Nairn	29.32	744.7	29.41	747.0	48	8.9		WNW			2		10					Overcast	W. D. Penny.
Nassau, Bahamas			30.17	766.3	73.5	23.1		NE					8					D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.61	752.1	29.80	756.9	44.4	6.9		SW			3		10kd		W	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.27	743.4	29.80	756.9	43.5	6.4		WSW			4–5		10					Overcast	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.64	752.8	29.80	759.2	45	7.2		SW			2		7					D. clouds	The Staff, for E. J. Stone, Esq
Plymouth	29.92	760.0	30.00	762.0	46.8	8.2		NW			2		10					Misty	John Merrifield.
*Roche's Point	29.89	759.2	29.97	761.2	49	9.4		W			3		8					¾ clouded	Wm. Kennedy.
St. Ann's Head	29.76	755.9	29.92	760.0	45	7.2		W			5		7					D. clouds	John C. Walker.
Sandwick Manse, Orkneys			29.35	745.5	37.8	3.2		S	18	8.0			10					Overcast	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.80	756.9	29.86	758.4	45.8	7.7		SW			1		0					Blue sky	Serg't W. H. Lyne.
Sheffield	29.50	749.3	29.79	756.7	43.1	6.2		WSW			2		9					Overcast	W. F. Cooper.
Silloth Rectory	29.64	752.8	29.67	753.6	42.7	5.9	88	NW			3		7			0.15	3.8	Overcast	Rev. F. Redford, A. M
Stonyhurst (Observatory)			29.73	755.1	42.5	5.8		WSW	27	12.1			10			0.060	1.52	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.72	754.9	29.94	760.5	46.8	8.2		W			3		7					Squally	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.96	761.0	30.02	762.6	49	9.4		W			6		8					Gloomy	W. Newcombe.
Valencia (Observatory)	29.93	760.2	29.96	761.0	46.9	8.3		W	24	10.7			10					Drizzling	The Met'g'l Office.
Sub-Series.																			
Cape Town (C. G. H. Obs'y)	29.89	759.2	29.93	760.2	67	19.4	48	NNW	3.4	1.5		10	10m			0.23	5.8	Foggy	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.58	649.7			81	27.2		N				2c	8k						Robert Burnet.
Constable, Cape Colony																			Francis Abbott, F.R.A.S.
Hobart Town, Tasmania			29.72	754.9	65.0	18.3	100	S			2		10k			0.55	14.0	Heavy rain	Andrew Gibb.
Las Palmas, Grand Canary																			Horace Witherell.
Leith (Restalrig Park) Sc'th'd			29.58	751.3	44.0	6.7		W			3		10ks			0	0	Overcast	C. Meldrum.
Mauritius (Observatory)	29.73	755.1	29.91	759.8	82.0	27.8	70	NNE	10.5	4.7		2	2		ENE	0.09	2.3	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.78	756.4	29.88	758.9	68.1	20.1	94	SSE	10	4.5			10			0.43	10.9	Raining	J. Youngclause.
Monach Lt-house, Hebrides			29.45	748.0	45	7.2		W			8		10			0	0		
North Unst, Shetland Is			29.36	745.7				W			6	4	7	W		0	0		

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from		
City of Agra, S. 10° 37′ W. 28° 10′			29.92‡	760.0‡	80.8	27.1		ENE			4		8					D. clouds	Capt. Thos. Young.
City of Cashmere, N. 8° 08′, W. 34° 34′			29.94‡	760.5‡	78.3	25.7		NNE			5		7					Showery	Capt. W. M. Grieve.
Barque Dochra, S. 30° 07′, W. 24° 40′			30.10‡	764.5‡	77	25.0		N			5		9					Overcast	Capt. N. Spalding.
S. S. German, S. 8° 35′, W. 9° 24′			29.84‡	758.9‡	82	27.8		ESE			5		2					Blue sky	Capt. O. D. Coxwell
Barque Hope, N. 29° 25′, W. 93° 50′			30.02	762.5	68	20.0		E			3		6			4	SE	Misty	Capt. Jas. Campbell.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Sunbeam																			Capt. O M. Dobson.
S. S Ethiopa																			Capt. A. Campbell.
S. S. Decapolis																			Capt. T. M. Almond.
Barque Fedalma																			Capt. H. L. Fox.
H. M. S. Alert																			Capt. J.P Maclear, R.N.
Barque Commewyne																			Capt. Jas. Buchan.
S. S. Richmond																			Capt. W. H. Stuart.
Bqte Fylde																			Capt. L. C. Dart.
Barque Royal Alexandra																			Capt. W. P. Hughes.

NOTE.—The originals give the wind directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	67.1	19.5	84	SE	.....	.....	2	.....	9d	.....	E	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.26	743.2	29.31	744.4	37.0	2.8	83	NW	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Farõe	29.45	748.1	29.47	748.6	39.4	4.1	77	NW	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Godthaab (Greenland)	29.82	757.3	29.86	758.4	6.1	—14.4	78	NE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Stykkisholm (Iceland)	28.84	732.4	28.88	733.6	25.2	— 3.8	91	NW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Thorshavn (Farõe)	29.94	760.2	29.98	761.1	39.4	4.1	85	SW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.28	743.6	29.39	746.4	36.1	2.3	83	NW	.....	.....	6	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.3	30.05	763.3	44.6	7	65	NNW	.....	.....	2	.....	8	NW	NW	0.008	0.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.81	757.1	29.92	760.0	46.8	8.2	83	W	.....	.....	1	.....	10	.....	Calm	0	0	Covered	Vaillant, Director.
Arras, Engin'r School	29.63	752.5	29.89	759.2	42.1	5.6	63	WNW	.....	.....	4	ck	k	.....	WNW	0.028	0.7	.....	Klein, Commandant.
Avignon, Normal School	29.82	757.3	29.89	759.3	52.3	11.3	44	N	.....	.....	4	.....	2	.....	NNW	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.40	746.8	29.97	761.2	42.6	5.9	58	N	.....	.....	2	.....	10kn	.....	W	0.091	2.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.73	755.1	30.00	762.1	44.4	6.9	60	NW	.....	.....	2	.....	8	.....	NW	0.030	0.75	Very cloudy	Frère Eugene Marie.
Besançon, Normal School	29.07	738.4	29.99	761.7	41.5	5.3	77	S	.....	.....	2	.....	8	.....	SW	0.142	3.6	Very cloudy	A. Carré, Director.
Bordeaux	29.87	758.6	30.07	763.6	45.5	7.5	66	ENE	.....	.....	1	.....	8	.....	.....	0.087	2.22	Very cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.13	739.9	30.04	763.0	40.6	4.8	84	N	.....	.....	1	.....	10n	N	N	0.087	2.2	Raining	Marlot, Director.
Bourges, Normal School	29.49	749.1	30.06	763.6	42.1	5.6	85	NW	.....	.....	1	.....	8ks	.....	W	0.020	0.5	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.87	758.6	30.11	764.8	50.0	10.0	79	NW	.....	.....	1	.....	9	.....	W	0.030	0.75	.....	Ch. de Kermaree, Dir.
Caen, Normal School	29.62	759.9	29.99	761.8	46.0	7.8	75	WNW	.....	.....	1	.....	5	.....	W	0.008	0.2	Cloudy	M. Bietrin, Director.
Carcassonne, N. School	29.56	750.7	29.98	761.4	50.4	10.2	62	W	.....	.....	1	.....	10	W	W	0	0	Covered	September, Director.
Châlons-sur-Marne, N. Sch'l	29.61	752.0	29.94	760.4	44 1	6.7	57	WSW	.....	.....	1	.....	8	E	E	0	0	Very cloudy	Jadot, Director
Chartres, Normal School	29.39	746.5	29.97	761.2	42.6	5.9	88	W	.....	.....	1	.....	9	.....	.....	0	0	.....	E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.61	726.8	30.01	762 3	41.4	5.2	90	NW	.....	.....	1	.....	10	.....	NW	0	0	.....	Alluard, Director.
Commercy, Normal School	29.05	737.9	29.93	760.3	39.0	3.9	75	WNW	.....	.....	4	.....	8n	WNW	WNW	0.04	1.	Very cloudy	Dr. Coullet, Director
Commune de Gréasque*	28.67	728.2	29.81	757.2	47.7	8.7	67	NW	.....	.....	3	.....	5	.....	NW	0	0	.....	Meyrol.for L. Klua, Dir.
Grenoble, Normal School	29.16	740.7	29.95	760.6	42.8	6	75	WNW	.....	.....	2	.....	kn	.....	.....	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.83	757.6	30.05	763.2	44.2	6.8	59	WNW	.....	.....	1	.....	5	.....	WNW	0.016	0.4	Cloudy	Mouillot, Director
Le Mans, Normal School	29.77	756.1	30.03	764.1	44.6	7	69	N	.....	.....	3	.....	10	.....	NNW	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.07	738.4	30.01	762.3	39.0	3.9	80	N	.....	.....	1	.....	10n	.....	NNW	0.087	2.20	Covered	A. Baudry, Director
Lorient, Naval Observatory	30.01	762.3	30.12	765.1	48.6	9.2	66	W	.....	.....	1	.....	8	.....	W	0.008	0.2	¾ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.35	745.6	30.00	761.9	48.2	6.2	68	N	.....	.....	1	.....	kn	.....	NNW	0.012	0.3	.....	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.52	749.8	29.79	756.6	51.8	11.0	47	NW	.....	.....	6–7	.....	3	.....	NW	0	0	.....	E. Stephan, Director
Mirecourt, Normal School	28.88	733.5	29.96	760.9	38.5	3.6	90	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Barbier, Director.
Mont-Louis	24 58	624.4	29.98	761.4	38.5	3.6	42	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	M. Cave, for Dr. Fines.
Nice	29.70	754.3	29.73	755.2	56.8	13.8	62	SE	.....	.....	3	.....	1	NW.	SE	0	0	Clear	Capt. Boissière, Director
Nismes, Normal School	29.72	755.0	29.93	760.3	52.7	11.5	52	NW	.....	.....	3	.....	1	.....	N	0	0	Clear	M. Boyer, Director.
Perpignan	29.83	757.7	29.94	760.4	51.3	10.7	48	NE	13.0	5.8	.....	.....	2	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.35	567.6	.....	.....	31.1	— 0.5	.....	.....	.....	.....	.....	.....	1	.....	N	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.83	733.6	29.97	761.2	45.3	7.4	53	N	.....	.....	4	.....	n	N	N	0	0	.....	M. Tallieu
Puy de Dome (Summit) Obs	24.99	634.8	.....	.....	22.8	— 5.1	100	NNW	.....	.....	3	.....	Fog	.....	.....	0.177	4.5	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	30.09	764.2	30.12	765.0	51.3	10.7	59	N	.....	.....	1	.....	2	N	N	0	0	¼ covered	Lt E. Decante, Director
Rouen, Normal School	29.87	758.7	29.96	760.9	43.7	6.5	76	NW	.....	.....	1	.....	5	.....	W	0.055	1.4	Cloudy	Frère Lucard, Director.
Saint Malo (Port) Obs'y	30.01	762.3	30.04	763.1	48.6	9.2	72	WNW	.....	.....	2	.....	1	WNW	WNW	0	0	Clear	Lt. Hercouet, Director
Saint Maur (near Paris)	29.80	757.0	29.97	761.2	46.0	7.8	59	WNW	.....	.....	2	.....	5	.....	NNW	0.004	0.1	Cloudy	F. Renou, Director.
Tarbes, Normal School	28.82	731.9	30.05	763.2	57.2	14	57	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.35	745.4	30.07	763.8	43.5	6.4	80	N	.....	.....	1	.....	10	.....	NW	0	0	Covered	B. Bailland, Dir.
Tours	29.84	757.8	30.03	762.8	46.8	8.2	67	NNE	.....	.....	1	.....	8	.....	N	0.024	0.6	¾ covered	M. de Tastes.
Versailles, Observatory	29.47	748.5	29.96	761.0	42.8	6.0	65	NNW	.....	.....	2	.....	.....	.....	.....	0.004	0.10	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.20	741.7	29.93	760.2	43.7	6.5	92	NW	.....	.....	2	.....	5	.....	.....	0.12	3.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.06	763.5	30.09	764.2	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési
Paris, Montsouris Obs'y	29.69	754.0	.....	.....	44.6	7.0	59	WSW	.....	.....	2	.....	9	.....	NW	Inap.	Inap	.....	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.23	767.9	30.26	768.6	44.6	7.0	88	NNE	11.6	5.2	.....	.....	10kn	.....	NE	0.020	0.5	Covered	Marc Dechevrens, J. S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 8, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Turbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.90	734.1	29.76	755.8	37.0	2.8	69	NW			8		4k	W		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.28	743.8	29.46	748.3	39.4	4.1	74	W			4		7			0.020	0.5		Prof. Dr. Arndt.
Breslau	29.00	736.5	29.52	749.8	32.0	0.0	90	W			8		10					Snowing	Royal University Obs'y
Carlsruhe	29.43	747.5	29.86	758.5	38.1	3.4	85	WSW			4		9	W		0.016	0.4	Snowing	Albert Senz.
Cassel	29.10	739.0	29.69	754.2	37.8	3.2	64	W			3		5	W		0.011	0.27		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.52	749.7	29.89	759.1	41.0	5.0	39	W			4		4			0.075	1.9		Physical Society.
Friedrichshafen	28.44	722.3	29.91	759.7	30.2	4.0	74	W			7		10	W		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.48	748.8	29.55	750.6	39.7	4.3	67	NW			7		5			0.217	5.5		Dr. Reinhold Kleeman.
Kiel	29.50	749.2	29.51	749.6	39.2	4.0	66	WNW			8		4			0.076	1.92		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.02	737.1	29.11	739.3	32.9	0.5	70	SW			9		10			0 012	0.3	Snowing	Prof. E. Luther.
Köslin			29.26	743.1	34.9	1.6		NW			6		3			0.043	1.1		H. Müller.
Leipsic Observatory	29.20	741.7	29.63	752.6	36.5	2.5	74	WSW			5		10	W		0.016	0.4	Snow-flakes	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.35	745.4	29.57	751.1	40.1	4.5	73	W			6		6s	NW		0.035	0.9	Snow-squalls	Dr. Assmann.
Memel	28.95	735.4	29.00	736.5	30.6	— 0.8	81	W			5–6		10n						Reinbrecht & Issermann.
Munich (München)	27.99	710.8	29.90	759.4	30.4	— 0.9	95	W			5		10			0.122	3.1	Heavy snow drift.	Dr. C. Lang.
Neufahrwasser	29.18	741.1	29.19	741.5	32.2	0.1	96	WNW			5		10			0.081	0.8	Snowing	A. Lothes.
Neustadt (Palatinate)	29.30	744.2	29.82	757.5	40.6	4.8	67	W			4		3	W		0.012	0.3		Reallehrer Dicknether.
Posen	29.12	739.7	29.42	747.2	33.8	1.0	81	W			8		10			0.004	0.1		Prof. Dr. Magener.
Strassburg (in Alsace)	29.37	745 9	29.93	760.3	39.6	4.2	67	WNW			3		10	WNW		0.050	1.27		Imp. University Observatory.
Stuttgart	28.89	733.7	29.81	757.1	38 3	3.5	54	NW			5		10			0.043	1.1		Prof. Dr. Schoder.
Thorn	29.17	740.8	29.35	745.5	35.8	2.1	57	W			6		7			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.30	718.9	29.57	758.8	34.0	1.1	77	W	7.2	3.2			7cks		W	0.063	1.6		Reallehrer J. Hopfner.
Wustrow	29.37	745.9	29.39	746.5	36.9	2.7	87	W			4		5s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.1	29.93	760.1	56.1	13.4		SW			2.0		5					⅓ clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.89	759.3	29.94	760.6	75.7	24.4	47	SW	3	1.3			0			0	0	Blue sky	
Deesa	29.60	751.8	30.08	764.1	77.5	25.3	6	NNE	11.4	5.1			0			0	0	Blue sky	
Bombay	29.87	758.8	29.91	759.7	78.3	25.7	57	NNW	22	9.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.05	712.6	29.88	758.9	87.7	30.9	17	NW	5	2.2			1			0	0	D. clouds	
Belgaum	27.36	694.9	29.85	758.1	86.2	30.1	21	NNE	6	2.7			1		SW	0	0	D. clouds	
Lahore	29.30	744.3	30.08	763.9	65.6	18.7	25	Calm	1.8	0.8			0			0	0	Blue sky	
Roorkee	29.07	738.3	30.00	762.0	63.8	17.7	43	NW	7.4	3.3			0			0	0		
Agra	29.46	748.4	30.05	763.2	71.3	21.5	20	W	11.4	5.1			0			0	0		
Nagpur	28.90	733.9	29.95	760.6	80.7	27.1	28	Calm	5.0	2.2			0			0	0	Blue sky	
Jubbulpore	28.62	726.8	30.01	762.3	70.3	21.3	29	Calm	2.5	1.1			0			0	0	Blue sky	
Lucknow	29.60	751.9	29.98	761.5	68.6	20.3	31	NNE	0.3	0.1			0			0	0	Blue sky	
Allahabad	29.68	753.8	30.00	762.0	69.8	21.0	32	WNW	5.4	2.4			0			0	0	Blue sky	
Patna	29.74	755.3	29.92	759.9	77.9	25.5	55	W	1.4	0.6			0			0	0	Blue sky	
Hazaribagh	27.86	707.7	29.92	759.9	67.8	19.9	31	W	8.2	3.7			0			0	0	Blue sky	
Cuttack	29.82	757.4	29.90	759.5	84.0	28.9	56	WNW	3.7	1.6			3			0	0	D. clouds	
Calcutta (Alipore)	29.86	758.3	29.88	758.9	80.4	26.9	46	NW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.43	747.4	29.82	757.5	73.2	22.9	53	Calm	1.4	0.6			0			0	0	Blue sky	
Chittagong	29.82	757.3	29.91	759.6	76.8	24.9	88	SW	4.2	1.9			0			0	0		
Sibsagar	29.53	749.9	29.87	758.7	67.5	19.7	72	ENE	1.7	0.8			8	NW	NW	0	0	D clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Lo'er 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.34	745.2	29.76	755.8	45.9	7.7	81	S	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.21	741.9	29.74	755 4	43.0	6.1	89	SW	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.64	752.9	29.76	755.8	43.0	6.1	82	W	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.83	732.3	29.76	756.0	42.4	5.8	88	SW	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.55	750.5	29.74	755.5	53.6	12.0	65	SE	8.1	3.6	.....	.....	2	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.81	706.3	29.76	755.9	45.0	7.2	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.71	754.5	29.76	755 8	47.3	8.5	77	NW	4.9	2.2	.....	.....	10	W	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.51	749.6	29.77	756.2	50.0	10.0	76	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.68	753.9	29.77	756.1	52.9	11.6	84	SW	11.9	5.3	.....	.....	9	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.64	752.9	29.82	757.5	56.3	13.5	54	S	13.0	5.8	.....	.....	5	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.59	751.5	29.85	758.1	56 5	13.6	55	S	12.5	5.6	.....	.....	7	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.95	735.3	29.85	758.1	55.8	13.2	77	NW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.58	751.3	29.78	756.4	56.5	13.6	54	NW	.....	.....	2	.....	5	W	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.60	751.7	29.85	758.2	56.3	13.5	60	NE	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. G. Cincciatore.
Syracuse	29.79	756.6	29.83	757.7	55.8	13.2	78	E	2.5	1.1	.....	.....	8	SW	.....	0.213	5.4	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.8	29.85	758.2	52.9	11.6	69	SW	2.5	1,1	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.91	759.7	29.93	760.2	52.2	11.2	88	NE	3.4	1.5	.....	7ck	.....	.....	.....	0.391	9.93	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.98	761.5	53.7	12.1	88	N	10.0	4.5	.....	10s	.....	.....	.....	0.040	1.02	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.96	761.0	30.03	762.7	47.6	8.7	96	NW	3.5	1.6	.....	10n	.....	.....	.....	1.410	35.81	Raining	The Staff.
Wakayama	29.91	754.6	29.76	755.9	48.6	9.2	99	NNW	11.7	5.2	.....	10n;s	.....	.....	.....	0.775	19.68	Raining	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.03	635.7	30.21	767.3	42.8	6.0	50	SW	.....	.....	1	1s	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.42	620.2	30.15	765.9	55.0	12.8	72	NW	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.70	754.3	29.99	761.0	62.2	16.8	94	W	.....	.....	1	8ck	1s	SW	.....	0	0	Cloudy	F. Quijano, C. E.
Mexico, Central Observatory	28.02	684.8	30.09	764.2	49.1	9.5	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	23.94	608.0	.....	.....	58.8	14.9	26	N	.....	.....	2	2k	0	W	.....	0	0	Clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.93	607.8	30.02	762.5	46.9	8.3	57	NW	.....	.....	1	0	0	.....	.....	0	0	Fine	M. V. de Leon, M. E.
Puebla (Catholic Institute)	23.36	593.3	30.29	769.3	41.9	5.5	51	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.14	613.2	30.19	766.7	51.3	10.7	61	SW	.....	.....	1	3	0	SW	.....	0	0	Clear.	G. Barroeta, M. D.
Tlacotalpam	29.91	759.7	29.92	760.0	71.6	22.0	93	SW	.....	.....	1	0	0	W	.....	0	0	Very foggy	Prof. M. M. Chazaro.
Vera-Cruz	29.91	759.8	29.94	760.5	72.5	22.5	89	Calm	0	0	.....	.....	.....	6sk	S	0	0	Cloudy	Prof. J. Rossell
Zacatecas	22.52	572.1	30.20	767.0	51.8	11.0	50	SW	.....	.....	2	1cs	0	.....	.....	0	0	Clear.	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.84	758.0	29.84	758.0	40.8	4.0	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	
Groningen	29.63	752.6	29.69	754.0	39.9	4.4	.....	NW	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Helder	29.72	755.0	29.72	755.0	38.7	3.7	.....	W	.....	.....	4	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	29.78	756.5	29.78	756.5	39.6	4.2	69	WNW	.....	.....	5	.....	.....	.....	.....	0.028	0.7	.....	
Utrecht	29 74	755.4	29.79	756.6	43.0	6.1	62	WNW	.....	.....	4	.....	5	.....	.....	0.047	1.2	Cloudy	H. v. d. Brink

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.26	743.3	29.32	744.7	34.5	1.4	74	S	1.1	0.5	.....	.....	3	.....	.....	0.315	8.0	.....	
Brönö	28.97	735.8	29.01	736.8	30.9	— 0.6	77	Calm	0	0	.....	.....	4	.....	.....	0.098	2.5	.....	
Christiana	29.00	736.7	29.15	740.5	36.7	2.6	41	SSW	9	4	.....	.....	1	.....	.....	0	0	.....	
Tromsö	28.83	732.3	28.87	733.4	24.8	— 4.0	80	WNW	4	2	.....	.....	10	.....	.....	0.472	12.0	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.15	765.8	30.36	771.2	56.1	13.4	77	ENE	.....	.....	3	.....	4	.....	.....	0.157	4.0	.....	Dr. J. A. Sampaio.
Campo Major	28.96	735.5	29.96	761.0	55.4	13.0	57	ESE	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.82	757.4	29.90	759.4	63.5	17.5	53	S	1.8	0.8	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.56	750.7	29.92	759.9	56.5	13.6	54	NNE	19.2	8.6	.....	.....	1	E	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.20	767.1	30.27	768.9	56.1	13.4	66	ENE	14.3	6.4	.....	.....	3	.....	.....	0.142	3.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.78	756.4	78.8	26.0	.....	W	.....	.....	2	.....	6	.....	W	2	W	D. clouds	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa Porto Praya, Cape Verd Ids.	.....	.....	30.08	764.0	75.6	24.2	.....	ENE	.....	.....	2	.....	3	.....	.....	2	ENE	D. clouds	J. T. d'Oliveria, Com'd't. A. de Souza Roza, 2nd L't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Comd't.
Sado, Capt. J. A de Brito Capello, N. 6° 27′, E. 6° 45′	.....	.....	29.91	759.6	85.1	29.5	.....	S	.....	.....	6	.....	5	.....	.....	4	S	D. clouds	A. Terceira, 2nd Lieut.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.15	765.8	56.8	13.8	.....	NNE	.....	.....	2	.....	10	.....	NNE	1	.....	Rain & fog, 8 hr's rain-fall.]	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.94	735.0	28.96	735.5	24.4	— 4.2	93	SSE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.07	763.7	29.98	761.6	16.9	— 8.4	82	WSW	20	13	.....	.....	3ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.96	761.0	30.52	775.1	7.7	—13.5	80	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	28.33	719.6	28.58	725.8	31.5	— 0.3	96	SSW	18	8	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. Dr. Weihrauch.
Ekaterinburg	29.12	739.7	30.14	765.6	22.8	— 5.1	38	WSW	2	1	.....	.....	1cs	.....	.....	.....	.....	.....	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.58	751.3	29.87	758.7	15.3	— 9.3	59	NE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Kertch	29.95	760.8	29.97	761.3	34.5	1.4	94	S	2	1	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Kieff	28.88	733.5	29.53	750.1	29.1	- 1.6	80	SSW	13	6	.....	.....	10cks	.....	.....	.....	.....	Foggy	Physical Cabinet.
Krotkowo*	29.26	743.1	29.76	756.0	12.9	—10.6	79	SE	18	8	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjano w.
Lugan	29.66	753.4	29.80	756.1	9.3	—12.6	58	SW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	28.93	734.9	29.51	749.6	19.8	— 6.8	63	S	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.21	716.6	30.80	782.3	— 7.1	—21.7	45	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.69	754.1	29.76	755.9	33.8	1 0	83	SSW	9	4	.....	.....	10cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Nukuss	29.76	755.9	30.00	761.9	48.2	9.0	61	E	7	3	.....	.....	3ks	.....	.....	.....	.....	.....	.....
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	28.72	729.4	28.73	729.8	32.9	0.5	76	SSE	20	13	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.62	727.0	30.26	768.5	39.9	4.4	63	NE	9	4	.....	.....	3	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Tiflis	28.49	723.7	29.97	761.1	36.1	2.3	49	NW	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	28.92	734.5	29.35	745.5	34.5	1.4	74	WSW	29	13	.....	.....	6ks;n	.....	.....	.....	.....	.....	.....
Wilna	28.73	729.7	29.15	740.4	35.4	1.9	64	SSW	13	6	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Yeniseisk	30.03	762.7	30.34	770.6	18.7	— 7.4	79	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs. Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.83	757.7	29.94	760.4	52.7	11.5	64	ESE	3.8	1.72	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763.7	30.13	765.2	50.9	10.5	75	NW	0.3	0.15	.....	.....	10	.....	.....	.....	.....	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687.2	.....	.....	41.9	5.5	68	N	11.2	5.00	.....	0	7	.....	.....	0	0	Cloudy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.70	703.6	29.95	760.8	51.1	10.6	48	N	8.2	3.67	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	29.77	756.1	29.92	760.0	55.4	13.0	63	ESE	2.7	1.19	.....	5	5	NW	.....	0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.10	739.2	30.01	762 2	52.7	11.5	62	NE	21.0	9.4	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	764.1	30.15	765.8	66.5	19.2	78	ESE	1.1	0.5	.....	0	0	.....	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.90	759.5	29.95	760 8	82.7	28.2	84	SE	3.3	1.5	.....	.....	3ck	.....	E	0	0	Slightlycld'y	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.75	755.7	29.85	758.2	61.7	16.5	67	ESE	11.8	6.6	.....	0	10	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	74.1	23.4	70	E	11.7	5.00	.....	1c	2k	E	E	0	0	Clear.	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.59	726.3	28.68	727.3	20.1	— 6.6	.....	N	.....	.....	6	.....	10	.....	.....	0.197	5.0	.....	
Umea	28.71	729.3	28.76	730.6	25.9	— 3.4	80	NNW	.....	.....	7	.....	4	.....	.....	0	0	.....	
Hernosand	28.78	731.1	28.84	732.4	29.8	— 1.2	54	NNW	.....	.....	6	.....	1	.....	.....	0.024	0.6	.....	
Stockholm	28.78	731.0	28.96	735.5	28.8	— 1.8	88	NNW	.....	.....	6	.....	0	.....	.....	0.303	7.7	.....	
Wisby	28.94	735.0	29.00	736.5	32.0	0.0	74	NW	.....	.....	7	.....	8	.....	.....	0.272	6.9	.....	
Sub-Series.																			
Upsala	28.82	732.1	28.91	734.3	27.7	— 2.4	96	NNW	17.7	7.9	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstiera.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.49	723.6	29.05	760.6	43.7	6.5	42	NNE	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.25	717.6	29.04	760.5	39.6	4.2	67	W	.....	.....	2	.....	8	.....	.....	0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.1 mm.; Thermometer, +1.4 Cent. Relative Humidity, —25 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.8	43.2	6.2	58	SW	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.85	758.1	68.8	14.9	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	29.95	760.7	62.8	17.1	64	W	.....	.....	3	.....	7n	.....	W	0.59	15.0	.....	Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B	29.92	760.0	29.93	760.2	35	1.7	.....	NW	4	1.8	.....	.....	6ks	.....	.....	0.32	8.1	Fair	Hon. J. Ferguson.
Chatham, N. B	29.89	759.2	29.96	761.0	32.1	0.1	94	Calm	0	0	.....	.....	Fog	.....	.....	0.45	11.4	Foggy	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.93	760.2	36.9	2.7	98	Calm	0	0	.....	.....	Fog	.....	.....	0.54	13 7	Foggy	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.99	761.7	29.7	— 1.3	100	SW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.96	761.0	36.8	2.7	.....	W	.....	.....	1	0	0	.....	.....	0.20	5.1	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	34.0	1.1	90	SW	5	2.2	.....	5ck	2ks	W	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.01	762.2	35.1	1.7	90	NW	5	2.2	.....	0	2s	.....	.....	0.55	14.0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.69	754.1	30.68	779.3	—21.0	—29.4	100	N	8	3.6	.....	0	0	.....	.....	0.182	4.62	Clear	James Stewart.
Granton, Ontario	28.88	733.5	30.02	762.5	36.0	2.2	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
Halifax, N. S	29.84	757.9	29.97	761.2	37.2	2.9	98	SE	1	0.4	.....	.....	Fog	.....	.....	0.310	7.87	Rain & fog	A. Allison.
Hamilton, Ontario	29.64	752.8	30.02	762.5	41.3	5.2	87	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.69	754.1	30.04	763.0	31.5	— 0.3	72	SW	4	1.8	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.90	759.4	29.94	760.5	35.7	2.1	96	S	3	1.3	.....	.....	10n	.....	.....	0	0	Foggy	C. H. Rigby.
Montreal, Quebec	29.83	757.7	30.04	763.0	30.1	— 1.1	99	W	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nelson.
Norwood, Ontario	29.29	744.0	30.01	762.2	34.6	1.4	100	N	3	1.3	.....	0	1s	.....	.....	0.11	2.8	Clear	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.32	744.7	30.05	763.3	30.1	— 1.1	89	NE	13	5.8	.....	2ks	5ks	NE	.....	0.25	6.3	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.24	742.7	30.02	762.5	33.3	1.8	84	Calm	.....	0	0	3ks	..	..	.....	0.40	10.2	Fair	J. F. Jeffers, M. A.
Port Dover, Ontario	29.31	744.5	30.02	762.5	39.9	4.4	100	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.35	745.5	30.02	762.5	34.2	1.2	89	E	2	0.9	.....	0	Fog	.....	.....	0	0	Foggy	M. Payne.
Quebec, Quebec	29.72	754.9	30.06	763.5	31.5	— 0.3	100	W	.....	.....	5	.....	10n	.....	.....	0.05	1.3	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.59	751.6	30.08	764.0	24.6	— 4.1	69	W	5	2.2	.....	.....	10n	.....	.....	0.37	9.4	Light snow	W. H. McIntyre.
St. John, N. B	29.80	756.9	29.97	761.2	36	2.2	100	N	6	2.7	.....	.....	9ks	.....	.....	0.51	13.0	Cloudy	G. Murdock, C. E.
Saugeen, Ontario	29.30	744.2	30.04	763.0	34.5	1.4	95	N	3	1.3	.....	.....	10s	.....	.....	0.44	11.2	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.97	728.2	29.99	761.7	35.0	1.7	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
Sydney, C. B	29.94	760.5	29.98	761.5	36.0	2.2	85	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.62	752.3	30.02	762.5	35.8	2.1	90	E	4	1.8	.....	0	0	.....	.....	0.020	0.51	Clear	Magnetic Observatory
Windsor, N. S	29.82	757.4	29.92	760.0	37.0	2.8	100	N	2	0.9	.....	.....	10n	.....	.....	0	0	Heavy mist	Prof. John E. Oram, M.A
Woodstock, Ontario	28.91	734.3	30.01	762.2	36.6	2.6	96	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	Professor Wolverton.
Yarmouth, N. S	29.90	759.4	29.97	761.2	37.1	2.8	94	N	5	2.2	.....	.....	Fog	.....	.....	0.42	10.7	Foggy	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.97	761.2	30.23	767.8	40	4.4	100	SW	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	John Delany.
St. Pierre, N. F., Hôpital Maritime	.....	.....	30.00	762.0	38.8	1.0	.....	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Lo'er 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.91	759.7	30.15	765.8	32	0.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Alpena, Michigan	29.43	747.5	30.10	764.5	31	— 0.6	89	NE	10	4.5	.....	.....	10n	.....	Calm	0.25	6.3	Sleeting	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.98	736.1	30.11	764.8	61	16.1	32	SW	5	2.2	.....	8c	Fog	Calm	Calm	0.11	2.8	Fair	
Atlantic City, New Jersey	30.14	765.5	30.15	765 8	41	5.0	91	NW	2	0.9	.....	0	Fog	.....	Calm	0.02	0.5	Clear.	
Augusta, Georgia	30.00	762.0	30.21	767.3	60	15.6	88	Calm	0	0	.....	2cs	Fog	W	Calm	Inap.	Inap.	Fair	
Baltimore, Maryland	30.14	765.5	30.18	766.6	51	10.6	72	NW	2	0.9	.....	2c	2s	W	Calm	0	0	Fair	
Barnegat, New Jersey	30.12	765.0	30.15	765.8	43	6.1	100	N	4	1.8	.....	0	2s;fg	.....	Calm	0.04	1.0	Clearing	
Bismarck, Dakota	28.62	726.9	30.47	773.9	—10	—23.3	100	N	24	10.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Boerne, Texas	28.44	722.4	29.72	754.9	64	17.8	100	N	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	27.15	689.6	30.11	764.8	20.5	— 6.4	85	NW	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Boston, Massachusetts	29.95	760.7	30.11	764.8	36	2.2	80	Calm	0	0	.....	0	Haze	.....	Calm	0.17	4.3	Clear.	
Brackettville, Texas	28.68	728.5	29.70	754.4	64	17.8	94	E	8	3.6	.....	2ck	5s	Calm	E	0	0	Fair	
Breckenridge, Minnesota	29.29	744.0	30.44	773.2	— 8	—22.2	100	N	24	10.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.84	757.9	29.89	759.2	73	22.8	90	S	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Buffalo, New York	29.32	744.7	30.02	762.5	47	8.3	70	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.78	756.4	30.08	764.0	34	1.1	90	S	5	2.2	.....	.....	Fog	.....	S	Inap.	Inap.	Foggy	
Cairo, Illinois	29.60	751.8	29.98	761.5	57	13.9	63	S	7	3.1	.....	.....	10s	.....	SW	0	0	Threatening	
Campo, California	27.30	693.4	29.87	758.7	41	5.0	91	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.13	765.3	30.14	765.5	59	15.0	88	NE	8	3.6	.....	5cs	Haze	W	.....	0	0	Fair	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	50	10.0	86	N	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear	
Cape Lookout, N. Carolina	30.13	765.3	30.14	765.5	58	14.4	94	W	5	2.2	.....	10ck	Haze	W	Calm	0	0	Light haze	
Cape May, New Jersey	30.14	765.5	30.16	766.1	41	5.0	91	N	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Castroville, Texas	29.09	738.9	29.76	755.9	68	20.0	95	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Cedar Keys, Florida	30.19	766.8	30.22	767.6	64	17.8	100	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Charleston, South Carolina	30.11	764.8	30.17	766.3	62	16.7	88	SW	5	2.2	.....	0	8ks	.....	SW	0	0	Cloudy	
Charlotte, North Carolina	29.30	744.2	30.12	765.0	54	12.2	93	W	1	0.4	.....	.....	10s;fg	.....	SW;Calm	.....	0	Cloudy	
Chattanooga, Tennessee	29.32	744.7	30.13	765.3	55	12.8	68	N	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Cheyenne, Wyoming	23.85	605.8	29.79	756.7	— 2	—18.9	100	N	20	8.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Chicago, Illinois	29.29	744.0	30.00	762.0	36	2.2	90	N	8	3.6	.....	.....	Fog	.....	N	0	0	Foggy	
Cincinnati, Ohio	29.40	746.7	30.00	763.5	50	10.0	75	SE	2	0.9	.....	5cs	Sm'e	W	Calm	0	0	Fair	
Cleveland, Ohio	29.28	743.7	30.01	762.2	47.5	8.6	77	SE	9	4.0	.....	0	0	.....	.....	0.01	0.3	Clear	
Coleman City, Texas	28.04	712.2	29.67	753.6	57	13.9	94	SE	8	3.6	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Columbus, Ohio	29.20	741.7	30.04	763.0	49	9.4	71	S	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.	
Concho, Texas	27.92	709.2	29.54	750 3	58	14.4	64	SW	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.42	747.3	29.88	758.9	66	18.9	84	S	8	3.6	.....	0	8ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.30	744.2	29.95	760.7	36	2.2	80	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Dayton, Washington T'y	.....	.....	.....	.....	10	—12.2	79	N	.....	.....	2	0	0	.....	.....	0.07	1.8	Clear.	
Deadwood, Dakota	25.45	646.4	.....	.....	— 8	—22.2	16	Calm	0	0	.....	.....	10n	.....	Calm	0.29	7.4	Heavy snow	
Decatur, Texas	28.68	728.5	29.82	757.4	67	19.4	74	.....	8	3.6	.....	5c	2s	S	S	0	0	Cloudy	
Delaware Breakwater, Del	30.16	766.1	30.18	766.6	43	6.1	100	N	6	2.7	.....	2c	Fog	NW	Calm	Inap.	Inap	Foggy	
Denison, Texas	29.03	737.3	29.79	756.7	66	18.3	84	S	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Denver, Colorado	24.63	625.6	29.85	758.2	13	—10.6	71	NE	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Des Moines, Iowa	28.99	736.3	29.89	759.2	36	2.2	80	E	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Detroit, Michigan	29.31	744.5	29.98	761.5	43	6.1	83	N	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.	
Dodge City, Kansas	27.10	688.3	29.43	747.5	28	— 2.2	43	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.27	743.4	29.99	761.7	33	0.6	70	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Duluth, Minnesota	29.48	748.8	30.20	767.1	25	— 3.9	87	Calm	0	0	.....	.....	10s	.....	NE	0.04	1.0	Cloudy	
Eagle Pass, Texas	29.14	740.1	29.86	758.4	66	18.9	79	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.90	759.4	29.96	761.0	36	2.2	85	NW	10	4.5	.....	5c	0	S	.....	0.43	10.9	Fair	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	85	E	.....	.....	1	.....	10s	.....	E	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.31	744.5	30.02	762.5	51	10.6	65	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Escanaba, Michigan	29.48	748.8	30.16	766.1	30	— 1.1	68	N	9	4.0	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Florence, Arizona	28.38	720.8	29.98	761.5	39	3.9	73	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Fort Apache, New Mexico	24.88	631.9	30.33	770.4	25	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.51	724.1	30.71	780.0	—17	—27.2	68	NW	5	2.2	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Custer, Montana	27.26	692.4	.....	.....	—10	—23.3	100	N	12	5.4	.....	.....	10n	.....	Calm	0.23	5.8	Light snow	
Fort Davis, Texas	25.06	636.5	30.03	762.7	43	6.1	75	Calm	0	0	.....	5ck	1s	S	S	0	0	Fair	
Fort Elliot, Texas	26.71	678.4	28.85	733.5	52	11.1	23	SW	14	6.3	.....	0	0	.....	.....	.....	0	Clear.	
Fort Gibson, Indian Ter	29.22	742.2	29.74	755.4	60	15.6	60	SE	12	5.4	.....	.....	10s	.....	S	.....	0	Cloudy	
Fort Grant, Arizona	25.03	635.8	29.83	757.7	40	4.4	31	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.54	724 9	29.78	756.4	62	16.7	36	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.80	706.1	.....	.....	—10	—23.3	53	NW	32	14.3	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.61	701.3	29.48	748.8	59	15.0	88	S	7	3.1	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.55	725 2	29.65	753.1	48	8.9	63	SW	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	29	— 1.7	45	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.06	712.7	29.59	751 6	57	13.9	63	S	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.93	760.2	29.97	761.2	67	19.4	95	S	8	3.6	.....	.....	Fog	.....	S	0	0	Dense fog	
Grand Haven, Michigan	29.35	745.5	30.01	762.2	38	3.3	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.17	740.9	29.95	760.7	50	10.0	72	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.92	760.0	29.94	760.5	67	19.4	95	S	8	3.6	.....	10c	0	W	.....	0	0	Cloudy	
Jacksboro, Texas	28.63	727.2	29.72	754.9	63	17.2	52	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksonville, Florida	30.18	766.6	30.21	767.3	60	15.6	88	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.20	741.7	29.82	757.4	38	3.3	81	NE	5	2.2	.....	0	2s	.....	Calm	0	0	Clear	
Key West, Florida	30.13	765.3	30.16	766.1	70	21.1	80	E	7	3.1	.....	2k	0	E	.....	Inap.	Inap.	Fair	
Kittyhawk, North Carolina	30.15	765.8	30.18	766.6	53	11.7	93	N	13	5.8	.....	8ck	Fog	NW	Calm	0	0	Fair	
Knoxville, Tennessee	29.14	740.1	30.16	766.1	50	10.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.30	744.2	30.06	763.5	32	0.0	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.97	659.7	30.12	765.0	33	0.6	70	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Laredo, Texas	29.47	748 5	29.80	756.9	70	21.1	75	E	5	2.2	.....	5k	0	W	.....	0	0	Fair	
Leavenworth, Kansas	28.82	732.0	29.65	753.1	43	6.1	75	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear.	
Lewiston, Idaho	.....	.....	.....	.....	16	— 8.9	83	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Little Rock, Arkansas	29.60	751.8	29.95	760.7	62	16.7	88	S	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Los Angeles, California	29.60	751.8	29.94	760.5	52.0	11.1	79	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy	
Louisville, Kentucky	29.44	747.8	30.00	762.0	55	12.8	68	S	5	2.2	.....	5c;ck	2s	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.52	749.8	30.02	762.8	44	6.7	92	NW	1	0.4	.....	.....	10s	.....	W	0.08	2.0	Clearing	
Madison, Wisconsin	29.00	736.6	30.02	762.5	32	0.0	89	NE	12	5.4	.....	.....	Fog	.....	Calm	0	0	Light fog	
Marquette, Michigan	29.43	747.5	30.18	766.6	26	— 3.3	88	NW	14	6.3	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Mason, Texas	28.21	716.5	29.91	759.7	65	18.3	84	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer:
Memphis, Tennessee	29.63	752.6	29.97	761.2	61	16.1	71	SE	9	4.0	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Milwaukee, Wisconsin	29.28	743.7	30.04	763.0	33	0.6	89	N	14	6.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.10	764.5	30.14	765.5	65	18.3	97	S	1	0.4	.....	.....	Fog	.....	Calm	Inap.	Inap.	Dense fog	
Montgomery, Alabama	29.93	760.2	30.16	766.1	64	17.8	94	S	3	1.3	.....	8k	0	SW	.....	0.08	2.0	Fair	
Morgantown, West Virginia	29.14	740.1	30.15	765.8	42	5.6	83	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	24	— 4.4	61	NW	24	10.7	.....	0	5ks	.....	NW	0	0	Clear	
Nashville, Tennessee	29.49	749.0	30.02	762.5	59	15.0	70	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	30.02	762.5	30.14	765.5	42	5.6	74	N	7	3.1	.....	0	0	.....	.....	0.49	12.4	Clear	
New London, Connecticut	30.06	763.5	30.11	764.8	39	3.9	91	NW	2	0.9	.....	0	Fog	.....	Calm	0.19	4.8	Fair	
New Orleans, Louisiana	30.08	762.7	30.09	764.3	66	18.9	84	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.05	763.3	30.10	764.5	37	2.8	90	NW	1	0.4	.....	.....	Fog	.....	.....	0.16	4.1	Foggy	
New River, North Carolina	.....	.....	.....	.....	60	15.6	88	W	.....	.....	1	8k	Fog	W	Calm	.....	.....	Cloudy	
New York, New York	29.96	761.0	30.14	765.5	46	7.8	85	NW	2	0.9	.....	0	Haze	.....	Calm	0.19	4.8	Clear	
Norfolk, Virginia	30.14	765.5	30.20	767.1	55	12.8	81	N	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
North Platte, Nebraska	26.99	685.5	29.75	755.6	11	—11.7	60	N	38	17.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.38	771.6	30.43	772.9	27.0	— 2.8	76	NE	6	2.7	.....	2cs	0	Calm	.....	Inap.	Inap.	Fair	
Omaha, Nebraska	28.64	727.4	29.75	755.6	35	1.7	80	NE	16	6.7	.....	0	2s	.....	Calm	0	0	Clear	
Oswego, New York	29.70	754.4	30.02	762.5	38	3.3	81	SE	11	4.9	.....	0	5ks	.....	W	0	0	Fair	
Pembina, Dakota	29.60	751.8	30.07	776.5	—18	—27.8	100	NW	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pensacola, Florida	30.15	765.8	30.18	766.6	67	19.4	95	S	1	0.4	.....	7k	Fog	SW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	30.10	764.5	30.16	766.1	48	8.9	85	N	3	1.3	.....	0	Fog	.....	.....	0.06	1.5	Clear	
Phœnix, Arizona	28.70	729.0	30.55	776.0	41	5.0	65	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.28	438.9	29.49	749.0	2	—16.7	100	W	16	7.2	.....	.....	Fog	.....	.....	0	0	Foggy	
Pilot Point, Texas	29.14	740.1	29.96	761.0	60	10.0	86	S	16	7.2	.....	.....	10s	.....	S	0	0	Cloudy	
Pioche, Nevada	23.68	601.5	29.45	748.0	36	2.2	61	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.27	743.4	30.00	762.0	42	5.6	84	E	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.32	744.7	29.99	761.7	41	5.0	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.01	762.2	30.06	763.5	38	3.3	81	NW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Oregon	30.32	770.1	30.39	771.9	31.5	— 0.3	69	N	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Portsmouth, North Carolina	.....	.....	.....	.....	60	15.6	88	W	6	2.7	.....	5cs	Haze	Calm	.....	0.02	0.5	Fair	
Prescott, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.17	766.3	30.18	766.6	65	18.3	74	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.65	753.1	30.02	762.5	44	6.7	45	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.68	753.9	29.89	759.2	72	22.2	80	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.37	746.0	30.00	762.0	44	6.7	76	W	13	5.8	.....	2k	0	W	.....	0	0	Clear	
Roseburg, Oregon	29.73	755.1	30.33	770.4	32	0.0	84	N	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Sacramento, California	29.87	758.7	29.95	760.7	43	6.1	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.31	744.5	29.88	758.9	50	10.0	58	S	4	1.8	.....	5c	0	W	.....	0	0	Fair	
St. Paul, Minnesota	29.18	741.1	30.04	763.0	34	1.1	79	N	12	5.4	.....	.....	10ks	.....	NE	0	0	Cloudy	
Salt Lake City, Utah	25.38	644.6	29.71	754.6	25	— 3.9	75	Calm	0	0	.....	.....	10s	.....	Calm	0.30	7.6	Threatening	
San Antonio, Texas	29.21	741.9	29.77	756.1	70	21.1	80	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.90	759.4	29.97	761.2	65	11.7	80	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.33	745.0	30.00	762.0	51	10.6	72	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.11	764.8	30.14	765.5	44	6.7	84	W	6	2.7	.....	0	0	.....	.....	0.15	3.8	Clear	
San Francisco, California	29.91	759.7	29.98	761.5	46	7.8	96	N	2	0.9	.....	.....	Fog	.....	N	0	0	Foggy	
Santa Fé, New Mexico	23.13	587.5	29.66	753.4	22	— 5.6	32	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.11	764.8	30.20	767.1	63	17.2	89	SW	4	1.8	.....	1ck	Sm'e	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	65	18.3	94	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.14	765.5	30.17	766.3	60	15.6	88	W	4	1.8	.....	1k	Haze	SW	.....	0	0	Clear	
Socorro, New Mexico	25.24	641.1	29.30	744.2	31	— 0.6	48	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.24	742.7	29.91	759.7	45	7.2	68	SE	4	1.8	.....	2c	2s	W	W	0	0	Fair	
Springfield, Massachusetts	30.02	762.5	30.15	765.8	33	0.6	89	Calm	0	0	.....	.....	Fog	.....	.....	0.34	8.6	Dense fog	
Stockton, Texas	26.86	682.2	29.86	758.4	55	12.8	45	SW	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass.	30.08	764.0	30.13	765.3	36	3.3	91	NW	7	3.1	.....	Haze	Haze	.....	.....	0.08	2.0	Hazy	
Toledo, Ohio	29.30	744.2	29.99	761.7	47	8.3	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.42	696.5	29.97	761.2	39	3.9	72	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.18	766.6	30.73	780.5	19.5	— 6.9	69	NE	16	7.2	.....	0	5ks	.....	NE	0	0	Fair	
Uvalde, Texas	28.94	735.1	29.74	755.4	69	20.6	86	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.80	756.9	30.06	763.5	65	18.3	94	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.23	615.4	29.71	754.6	—20	—28.9	100	E	22	9.8	.....	0	0	.....	.....	0.22	5.6	Clear	
Visalia, California	29.52	749.8	29.89	759.2	49.5	9.7	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.07	763.8	30.10	766.8	46	7.8	80	Calm	0	0	.....	5cs	Fog	Calm	Calm	0.01	0.3	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	77	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	30.08	764.0	30.15	765.8	62	16.7	77	Calm	0	0	.....	8ck	0	NW	.....	0	0	Fair	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	21	— 6.1	71	N	14	6.3	.....	0	7s	.....	N	0	0	Fair	
Wood's Holl, Massachusetts	30.05	763.3	30.09	764.3	39	3.9	91	N	4	1.8	.....	.....	Fog	.....	Calm	0.05	1.3	Dense fog	
Yankton, Dakota	28.76	730.5	30.15	765.8	17	— 8.3	83	N	19	8.5	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Yuma, Arizona	29.70	754.4	29.85	758.2	43	6.1	67	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	21.96	557.8	.....	.....	59.5	15.3	71	Calm	.....	.....	0	4k	4ks	.....	.....	0.43	10.9	.....	Thomas Herran,
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	70	21.1	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	72	22.2	82	Calm	0	0	.....	0	0	.....	.....	.....	.....	Fair	James Gall.
Navassa, W. I.	29.94	760.5	30.02	762.5	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	76	24.4	91	NE	.....	.....	2	.....	8ks	E	.....	0.860	21.84	Cloudy	C. J. Hering.
PuertoBerrio, U.S. Colombia	29.33	745.0	29.88	758.9	83	28.3	76	Calm	.....	.....	0	2c	.....	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.50	774.7	30.56	776.2	—28.0	—33.3	.....	NW	14	6.3	.....	0	0	.....	.....	.....	.....	Clear	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.2 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Elliot, 2,500 (?) feet, or 762 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m., Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft. or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,886 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100(?)ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480(?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.8 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.97 in., or 65.8 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.38 in., or 110.9 mm.; Santa Fé, 6.64 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.33 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.16‡	766.1‡			68	20.0	95	SE	2	0.9			8		S	0	0			Fair	
Navy Yard, Portsmouth, N.H	30.05‡	763.3‡			36	2.2	100	N	2	0.9			0							Clear	
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡			48	8.9	94	NE			1		10n		SW	0 36	9.1			Raining	
Adams, N. 9° 06′, W. 85° 35′	29.83‡	757.7‡			80	26.7	81	NNE			2–3		2		NNE			Smooth	ENE	Fair	
Colorado, New York, N. Y.	30.07‡	763.8‡			41	5.0		Calm	0	0			10ks		Calm	0	0			Foggy	
Constitution, As inwall, Panama	29.88‡	758.9‡			77	25.0	91	NNE			5		9		NNE			Mod'ate	NNE	Showery	
Enterprise, Naples, Italy	29.88‡	758.9‡			55	12.8	68	SSW			2		5		SSW			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.18‡	766.6‡			55	12.8	74	N	6	2.7			2		NE	0	0			Clear	
Independence, Mare I'd, Navy Yard, Cal.	29.97‡	761.2‡			46	7.8	92	Calm	0	0			0			0	0			Clear	
Kearsarge, Boca del Toro, Chiriqui	29.96‡	761.0‡			75	23 9	55	NW			2		10		NW			Smooth		Drizzling	
Lackawana, Navy Yard, Mare I'd., Cal.	30.09‡	764.3‡			48	8.9	92	NW			0–1		10							Foggy	
Marion, S. 34° 56′, W. 55° 55′	29.77‡	756.1‡			71	21.7	85	SE			2		10		Var.	Mod'ate	Mod'ate	Smooth		Rainy	
Michigan, Erie, Pa.	29.96‡	761.0‡			50	10.0	65	SW			1		2		SW					Clear	
Minnesota, New London, Conn.	30.08‡	764.0‡			37	2.8	100	Calm			0		10							Foggy	
Monocacy, Shanghai, China.	30.25‡	768.3‡			46	7.8	77	N			1		10		E					Cloudy	
New Hampshire, Port Royal, S. C.	30.16‡	766.1‡			63	17.2	83	Calm	0	0			5?		Calm	0	0			Clear?	
Nipsic, N. 27° 07′ W. 70° 30′	30.16‡	766.1‡			69	2 .6	78	N			4		5		NNW			Light	N	D. clouds	
Onward, Callao, Peru †	29.87‡	758.7‡			68	20.0	95	SSE			2		10					Long	W	Misty	
Palos, Tientsin, China	30.55‡	776.0‡			30	– 1.1	100	SE			2		8							Cloudy	
Passaic, Washington, D. C.	30.16‡	766.1‡			47	8.3	77	SE			1		5		S					Fair	
Pensacola, Panama, Panama	29.91‡	759.7‡			73	22.8	90	NW			1		1					Smooth		D. clouds	
Powhatan, Norfolk, Va.	30.14‡	765.5‡			53	11.7	93	N			0–1		2							Clear	
Quinnebaug, Leghorn, Italy	29.72‡	754.9‡			57	13.9	69	S			3		5		S					Fair	
Richmond, Hong-Kong, China	30.00‡	762.0‡			63	17.2	100	E			2		10			0.30	7.6	Smooth		Misty	
Rio Bravo, Brownsville, Texas †	30.03‡	762.7‡			69	20.6	100	SSE	2	0.9			2		Calm	0	0			Fair	
Santee, Annapolis, Md	30.17‡	766.3‡			45	7.2	76	N			1		5		W	0	0			Hazy	
Shenandoah, Montevideo, Uruguay	29.73‡	755.1‡			71	21.7	95	SW			3		8		SW			Mod'ate	SW	Fair	
St. Louis, League Island, Pa.	30.12‡	765.0‡			36	2.2	100	SW	3	1.3			10		SW	0	0			Foggy	
Swatara, N. 37° 18′, E. 5° 40′	29.82‡	757.4‡			56	13.3	94	NE			5		10		NE			Mod'ate	NE	Cloudy	
Tennessee, Norfolk, Va.	30.16‡	766.1‡			52	11.1	93	NW	5	2.2			8		NW			Smooth		Hazy	
Trenton, Villefranca, France	29.74‡	755.4‡			65	18.3	58	SE			2		0			0	0			Clear	
Tuscarora, Acapulco, Mexico	29.92‡	760.0‡			75	23.9	81	Calm			0		0			0	0	Smooth		Clear	
Vandalia, Navy Yard, Brooklyn, N.Y.	30.12‡	765.0‡			41	5.0	91	Calm			0		0							Clear	
Wabash, B s on, Mass.	30.07‡	763.8‡			35	1.7	90	NW	2	0.9			8			0	0			Foggy	
Wachusett, Montevideo, Uruguay †	30.33‡	770.4‡			70	21.1	100	SW			3		10		W			Smooth	W	Overcast	
Wyoming, Naples, Italy	29.83‡	757.7‡			55	12.8	62	WSW			1		5		WSW			Smooth	WSW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft. or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer.																			
S. S. Moravian, J. Graham, N. 44° 43', W. 51° 51'	30.24‡	768.1‡	42	5.6	83	S			3		5		SSW	0	0	Mod'ate	S	Fair	John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton In Chesapeake Bay	30.17‡	766.9‡				Var.			2		2		W					Fine	A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 51° 18', W. 14° 19'	30.28‡	769.1‡	52	11.1	79	W			7		6		WNW	Mod'ate	Mod'ate	Mod'ate	WNW	Cloudy	
S. S. Ohio, Henry Morrison. N. 50° 52', W. 15° 38'...†*	30.30‡	769.6‡	54	12.2		NW			2		8		NW	0	0	Light	NW	Cloudy	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 40° 35', W. 67° 08'	30.01‡	762.2‡	52.5	11.4	100	N			3		5		N	1 h'r	1 h'r	Mod'ate	N	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China	30.01‡	762.2‡	61	16.1	100	E			2		10		E					Cloudy.	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal.	30.10‡	764.5‡				NW			2		ok		NW	0	0	Smooth		Fog & mist.	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, N. 33° 39', W. 118° 17'	30.00‡	762.0‡	60	15.6		S			2		8		S	0	0			Cloudy	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
PACIFIC MAIL S. S. CO., MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 8° 32′, W. 83° 56 ...†	29 78‡	*56 4‡	79	26.1	86	SE			1		5		SSE	0	0	Smooth	SSE	Fair	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly, Panama†...	29.81‡	57.2‡	71	21.7		NNW			1		8		N	0	0	Smooth		Cloudy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 17° 14′, W. 101° 00′†...	29.87‡	758.7‡	74	23.3	86	E			2		2		Calm	0	0	Smooth	Confused	Misty	
S. S. Dakota, D. E. Griffiths																			
Utsalady, Washington Ty..†	30.33‡	770.4‡	30	-- 1.1		NE			2					0	0			Clear	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 9° 38′, W. 162° 39′	29 79‡	756.7‡				ESE			4				SE			Heavy	NE	Fine	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,																			
S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes, N. 48° 07′, W. 21° 52′...†.	30.31‡	769.9‡	57	13.9		N	2	0.9			8		N	0	0	Mod'ate WNW		Fine	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES. Furnished by the co-operation of the Observers named.																			
Schr. Abby K. Bentley																			Mehaffey.
Schr Adalle Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury, S. 35° 55′, E. 136° 25′.... *	30.04‡	763.0‡	67	19.4		SE			5		10		SSE			Smooth		Cloudy	B. F. Woodbury.
Brigantine George, W. H. Champlin																			
Iron Cross, W. Randall, N. 16° 47′, W. 42° 40′	30.01‡	762.2‡	74	23.3	86	NNE			4		8		NE;NNW	0	0	Mod'at	NNE	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

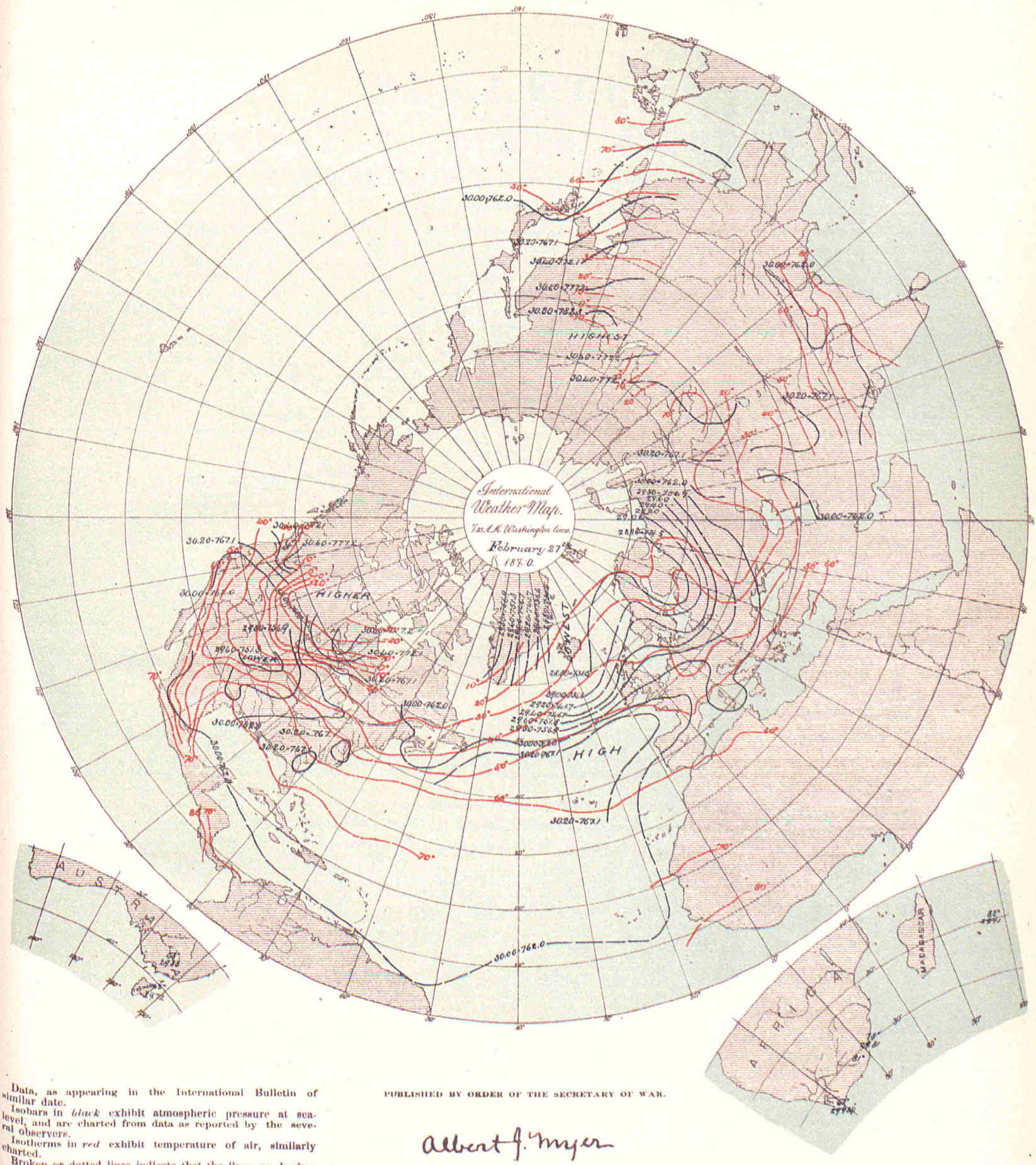
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given: D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 126 Pearl St. Boston

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON FEBRUARY 28, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			29.85	758.3				SW					10			0.374	9.5	Covered	
Nemours			29.88	758.9	62.1	16.7	85	E			1		2			0.028	0.7	Fair	Kesxuche.
Algiers			29.91	759.8	60 1	13.4	57	NE			4		0			0	0	Clear	Touriliere.
La Calle			29.80	756.5	59.0	15.0	68	NW			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.83	757 7															Gau.
Saida			29.84	758.0															Herbin.
Tebessa			29.89	759.2	42.8	6.0	73	N			2		9			0.035	0.9	Covered	Watrin.
Geriville																			Brugniaux.
Laghouat			29.88	758.9	57.6	14.2	80	N			1		10			0.378	9.6	Covered	Bertrand.
Biskra			29.80	756.9	64.0	17.8	70	E			2		8			0	0	Very cloudy	Chanvaux.

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4.462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.30	744.1	29.85	758.3	43.7	6.5	63	S			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.92	734.5	29.70	754.4	38.1	3.4	58	SW	17.4	7.8			5			0	0		Dr. Wierzbicki.
Eperies	28.84	732.4	29.74	755.4	35.2	1.8	71	S			1		7cs;s		N	0.886	22.50		Julius Mikolik.
Gratz	28.56	725.4	29.84	757.8	41.7	5.4	76	S			3		0			0	0		Andreas Rospini.
Hermannstadt	28.38	720.9	29.84	757.8	41.0	5.0	63	NNW			2		4			0	0		Prof. A. Gottschling.
Kremsmünster, Observatory	28.42	721.9	29.79	756.7	39.9	4.4	64	WSW			2		4			0.126	3.2		The Staff.
Lemberg	28.69	728.6	29.70	754.4	36.8	2.1	64	W			1		0			Blank	Blank		Dr. T. Stanecki.
Pola	29.74	755.3	29.85	758.2	47.8	8.8	60	WNW			2		0			0.024	0.6		I.R. Hydrographic Office.
Szathmar	29.40	746.7	29.88	759.0	36.7	2.6	97	SW			2		0			0	0		Pet. Pancsics, S. J.
Szegedin	29.46	748.3	29.74	755.5	43.0	6.1	65	W			2		0			0	0		Karl Stancel.
Trieste	29.76	755.8	29.86	758.4	50.0	10.0	54	W			1		0			0	0		P. Busin.
Vienna	29.05	737.8	29.77	756.1	43.3	6.3	46	W			5		3			0	0		I.R. Central Met. Ob'ey.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Treiste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels	29.36	745.8	29.57	751.0	41.8	7.1	96	WSW			4		10		SW	0.108	2.75	Light rain	Royal Observatory
Furnes	29.55	750.6	29.68	751.2	48.4	9.1	80	W			5		10			0	0		M. E. de Cae.
Maeseyck	29.25	742.9	29.37	746.1	44.1	6.7	96	W			6		10			0.098	2.5	Raining	M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

This Paper is furnished by the Government of the United States, without charge, to the Co-operating Observers acting with the Signal Office in the collection of Simultaneous Reports.

Entered at the Post Office at Washington, D C., as Second-Class Matter

BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.09	738.9	29.19	741.4	45.3	7.4	.....	W	25	11.2	.....	.....	2	.....	.....	0.070	1.78	Squally	W. Boswell.
Ardrossan	29.34	745.2	29.35	745.5	46	7.8	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	G. Carrick.
Armagh, (Observatory)	29.26	743.2	29.49	749.0	47.8	8.8	.....	W	13	5.8	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.47	748.5	48.6	9.2	.....	W	28	12.5	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton (Sharples)	28.92	734.6	29.43	747.5	46.8	8.2	.....	W	26	11.6	.....	.....	8	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.15	740.4	29.54	750.3	49.6	9.8	65	W	.....	.....	4	.....	4	.....	.....	0.10	2.5	D. clouds	J McLandsborough.
Bridgetown, Barbadoes	29.89	759.2	29.92	760.0	78.5	25.8	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt.G.Surgener, A.H.C
Cambridge (Observatory)	29.40	746.7	29.50	749.3	52.9	11.6	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.49	749.0	51.0	10.6	.....	W	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham (School M. E.)	29.41	747.0	29.54	750.3	53.1	11.7	.....	SW	.....	.....	0	6ck	.....	.....	.....	.....	.....	D. clouds	Lance Corp'l Hocker, R. E.
Dorchester	29.42	747.3	29.46	748.3	51	10.6	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.52	749.8	29.54	750.3	49	9.4	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth (Observatory)	29.50	749.3	29.73	755.1	51.0	10.6	.....	W	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, Natal	27.62	701.5	29.83	757.7	79.7	25.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Corp'l H.Coombs, A.H.C
Free Town, Sierra Leone	29.63	752.6	29.86	758.4	86	30.0	.....	E	.....	.....	0	.....	3k	.....	.....	.....	.....	.....	.....
Galway (Queen's College)	.....	.....	29.56	750.8	51	10.6	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	M J. O'Donaghue.
Gibraltar, Mediterranean.§	29.78	756.4	29.84	757.9	55.5	13.1	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Corp'l S. Cordue, A.H.C.
Glasgow, (Observatory)	29.12	739.6	29.33	745.0	45.9	7.7	.....	NW	.....	.....	3	.....	7k	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.42	747.3	29.43	747.5	49	9.4	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	Squally	G. T. Watson.
Greenwich (Royal Obs'y)	29.37	746.0	29.54	750.3	51.3	10.7	.....	W	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G.B.Airy.
Guernsey	29.51	749.5	29.73	755.1	49.5	9.7	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Dr. S.E Hoskins, F.R.S.
Helston	29.89	759.2	30.01	762.2	51	10.6	.....	WNW	.....	.....	6	.....	4k	.....	.....	0.08	2.0	Fine	M. P. Moyle.
Holyhead	29.46	748.3	29.53	750.0	49	9.4	.....	WSW	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.49	749.0	29.78	756.4	47.1	8.4	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew (Observatory)	29.51	749.5	29.55	750.6	51.7	10.9	.....	W	21	9.4	.....	.....	9	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester (Museum)	29.23	742.4	29.48	748.9	50.8	10.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.53	750.0	29.80	751.8	56.8	13.8	.....	NE	.....	.....	3	.....	10kn	.....	.....	Blank	Blank	Overcast	A. King.
Nairn	29.08	738.6	29.17	740.9	45	7.2	.....	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, Bahamas	.....	.....	30.16	766.1	74.5	23.6	.....	NE	.....	.....	.....	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham (Observatory)	29.29	744.0	29.48	748.8	50.8	10.4	.....	SW	.....	.....	4	.....	10kd	.....	W	0.017	0.43	Overcast	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	28.99	736.3	29.51	749.5	49.2	9.6	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.32	744.7	29.58	751.3	49	9.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery	The Staff, for E. J. Stone, Esq.
Plymouth	29.62	752.3	29.69	754.1	51.0	10.6	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
*Roche's Point	29.63	752.6	29.71	754.6	51	10.6	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded	Wm. Kennedy.
St. Ann's Head	29.47	748.5	29.63	752.6	48	8.9	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.07	738.4	37.2	2.9	.....	W	22	9.8	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.82	757.4	29.88	758.9	52.8	11.6	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Sefg't W. H. Lyne.
Sheffield	29.20	741.7	29.47	748.5	51.0	10.6	.....	WSW	.....	.....	3	.....	9	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.37	746.0	29 40	746.7	49.6	9.8	62	NW	.....	.....	6	.....	4	.....	.....	0.082	2.08	D. clouds	Rev. F. Redford, A. M
Stonyhurst (Observatory)	.....	.....	29.45	748.0	46.6	8.1	.....	W	24	10.7	.....	.....	8	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.37	746.0	29.59	751.6	52.3	11.3	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Squally	Rev. C.H. Griffith, F.M.S.
Truro (Royal Institution)	29.68	753.9	29.73	755.1	54	12.2	.....	W	.....	.....	7	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia Observatory)	29.71	754.6	29.74	755.4	50.6	10.3	.....	WNW	18	8.0	.....	.....	10	.....	.....	Blank	Blank	Misty	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	30.06	763.5	30.10	764.5	74.4	23.6	36	S	17.3	7.7	.....	0	1	.....	.....	.....	.....	Vapory	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.62	650.7	.....	.....	79	26.1	.....	SW	.....	.....	.....	3ck	6k	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	....	30.21	767.3	56.0	13.3	71	SE	.....	.....	3	.....	7k	.....	.....	0	0	.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith (Restalrig Park) Sc't'l'd	.....	.....	29.31	744.5	47.1	8.4	.....	W	.....	.....	6	6cs	.....	.....	.....	0.02	0.5	Fine	C. Meldrum.
Mauritius (Observatory)	29.82	757.4	30.00	762.1	81.4	27.4	73	ENE	15.0	6.7	.....	2	2	W	E	0.01	0.3	Fine	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	59.1	15.1	86	SE	20	8.9	.....	.....	10	.....	.....	1.01	25.6	Showery	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	29.24	742.7	46	7.8	.....	NW	.....	.....	7	5	5	NW	.....	0.3	8.	.....	.....
North Unst, Shetland Is	.....	.....	28.71	729.2	.....	.....	.....	NW	.....	.....	7	10	10	.....	.....	Blank	Blank	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 43 m., p. m., Greenwich time.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 8° 24′ W. 28° 50′	.....	.....	29.94‡	760.5‡	83	28.3	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Capt. Thos. Young.
City of Cashmere, N. 10° 30′, W. 36° 32′	.....	.....	29.96‡	761 0‡	81	27.2	.....	ENE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Capt. W. M. Grieve.
Barque Dochra, S. 29° 40′, W. 24° 40′	.....	.....	30.08‡	764.0‡	78	25.6	.....	N	.....	.....	5	.....	3k	.....	N	.....	.....	D. clouds	Capt. N. Spalding.
S. S. German, S. 3° 57′, W. 11° 32′	.....	.....	29.83‡	757.7‡	84	28.9	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Capt. O. D. Coxwell.
Barque Hope, N. 29° 25′, W. 93° 20′	.....	.....	29.98	761.5	69	20.6	.....	E	.....	.....	3	.....	7	.....	.....	4	SE	Misty	Capt. Jas. Campbell.
Barque Royal Alexandra, S. 34° 36′, E. 24° 51′	.....	.....	30.20	767.1‡	66.9	19.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. P. Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Brig. Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	L'w'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
San José	26.20	665.5	29.92	760.0	64.8	18.2	80	SE	.....	.....	1	8d	0	E	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	28.79	731.2	28.84	732.4	39.2	4.0	97	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	
Fanöe	28.96	735.6	28.98	736.1	42.4	5.8	81	W	.....	.....	6	.....	9	.....	.....	.....	.....	.....	
Godthaab (Greenland)	29.60	751.9	29.66	753.0	1.4	—17.0	84	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
Stykkisholm (Iceland)	29.08	738.7	29.13	739.8	7.5	—13.6	92	N	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	
Thorshavn (Faröe)	28.85	732.8	28.89	733.7	24.6	— 4.1	73	NW	.....	.....	8	.....	7	.....	.....	.....	.....	.....	
Vestervig	28.71	729.2	28.82	732.0	38.5	3.6	88	W	.....	.....	7	.....	6	.....	.....	.....	.....	Raining	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.8	29.87	758.8	46.4	8	86	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.58	751.4	29.69	754.2	46.8	8.2	89	SW	.....	.....	3	.....	2	.....	E	0	0	Slightly cld'y	Vaillant, Director.
Arras, Engin'r School	29.38	746.3	29.56	750.8	45.7	7.6	100	W	.....	.....	6	.....	10	.....	W	0.081	0.8	Raining	Klein, Commandant.
Avignon, Normal School	29.82	757.5	29.90	759.5	53.2	11.8	84	N	.....	.....	3	.....	0	.....	.....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.30	744.1	29.86	758 4	45.3	7.4	98	W	.....	.....	2	.....	8n	.....	.....	0.008	0.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29 46	748.3	29.73	755.1	48.6	9.2	79	SW	.....	.....	3	.....	10	.....	W	0	0	Covered	Frère Eugene Marie.
Besançon, Normal School	29.05	737.9	29.90	761.0	45.1	7.3	70	WNW	.....	.....	2	.....	8	.....	SW	0.146	3.7	Very cloudy	A. Carré, Director.
Bordeaux	29.79	756.6	29.98	761.6	50.9	10.5	46	SSE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.12	739.7	30.04	763.1	48.2	9	84	W	.....	.....	1	.....	kn	N	N	0	0	.....	Marlot, Director.
Bourges, Normal School	29.42	747.2	29.98	761.5	46.0	7.8	75	SW	.....	.....	1	.....	2k	.....	SW	0	0	Slightly cld'y	M. Gence, Director.
Brest, Naval Observatory	29.03	752.7	29.88	758.9	53.2	11.8	85	WSW	.....	.....	2	.....	10	.....	SW	0	0	Misty	Ch. de Rermaree, Dir.
Caen, Normal School	29.07	753.5	29.74	755.4	48.9	9.4	86	SW	.....	.....	1	.....	10	.....	SW	.....	.....	Light rain	M. Bietrix, Director.
Carcassonne, N. School	29.54	750.2	29.96	760.9	50.7	10.4	48	NW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Director.
Châlons-sur-Marne, N. Sch'	29.49	749.0	29.82	757.3	44.2	6.8	79	SW	.....	.....	4	.....	8	NE	NE	0	0	Very cloudy	Jadot, Director
Chartres, Normal School	29.23	742.4	29.80	756.9	46.0	7.8	89	W	.....	.....	2	.....	9	NE	.....	0	0	.....	E. Lèquint, Director.
Clermont-Fd, Puy de D. Obs	28.65	725.1	29.92	759.9	46.9	8.3	50	NW	.....	.....	1	.....	5	.....	NW	0	0	.....	Alluard, Director.
Commercy, Normal School	28.93	734.8	29.81	757.2	40.8	4.9	84	WSW	.....	.....	4	.....	10n	WSW	WSW	0.012	0.3	Light rain	Dr. Coullet, Director
Commune de Gréasque*	28.75	730.3	29.89	759.3	52.3	11.3	50	SW	.....	.....	1	.....	5	.....	SW	0	0	.....	Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.17	740.8	29.95	760.6	46.4	8	72	NE	.....	.....	1	.....	ks	.....	SE	0	0	.....	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.76	755.8	29.98	761.4	50.0	10.0	89	WSW	.....	.....	1	.....	5	.....	WSW	0.008	0.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.61	752.0	29.92	759.9	48.2	9	89	W	.....	.....	4	.....	10	.....	WSW	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.04	737.5	29.98	761.4	44.1	6.7	51	W	.....	.....	1	5c	.....	WSW	S	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.80	756.8	29.91	759.6	52.9	11.6	85	WSW	.....	.....	3	.....	10	.....	WSW	0	0	Covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.32	744.8	29.95	760.7	48.4	9.1	40	N	.....	.....	1	.....	5k	.....	NW	0	0	Cloudy	Ch. André, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director.
Marseilles, Observatory	29.55	750.6	29.82	757.4	56.7	13.7	77	W	.....	.....	2–3	.....	6	.....	ESE	0	0	.....	E. Stephan, Director.
Mirecourt, Normal School	28.83	732.3	29.90	759.5	40.8	4.9	93	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Barbier, Director.
Mont-Louis	28.56	725.4	29.94	760.4	41.0	5.0	25	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	M. Cave, for Dr. Fines.
Nice	29.80	756.9	29.84	757.8	56.8	13.8	55	SE	.....	.....	3	.....	1	NW	NNW	0	0	Clear	Capt. Bolssière, Director.
Nismes, Normal School	29.68	753.9	29.89	759.2	52.7	11.5	50	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Boyer, Director.
Perpignan	29.80	757.0	29.91	759.7	51.1	10.6	34	NE	18.0	8.8	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi (Plantade) H. P.	22.32	566.8	.....	.....	33.4	0.8	.....	.....	.....	.....	.....	.....	1	.....	Calm	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Privas, Normal School	28.87	733.4	29.96	760.9	48.0	6.1	.....	N	.....	.....	1	c	.....	W	W	0	0	.....	M. Tallieu
Puy de Dome (Summ') Obs	24.94	633.4	.....	.....	26.2	— 3.2	98	W	.....	.....	4	.....	2	.....	W	0.043	1.1	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	30.00	762.1	30.04	762.9	49.5	9.7	70	SW	.....	.....	1	.....	5	SW	SW	0	0	¾ covered	Lt E. Decante, Director
Rouen, Normal School	29.65	753.0	29.73	755.2	47.7	8.7	86	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.78	756.3	29.81	757.1	52.2	11.2	77	SW	.....	.....	4	.....	8	SW	SW	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.04	752.8	29.80	757.0	46.9	8.3	77	SW	.....	.....	3	.....	10	.....	W	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.89	733.9	29.90	761.7	48.2	9	61	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	T. Huguet, Director
Toulouse, Observatory	29.32	744.7	30.04	763.1	45.8	7.4	57	NW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cld'y	B. Bailland, Dir.
Tours	29.71	754.7	29.91	759.7	48.6	9.2	71	W	.....	.....	2	.....	8	.....	W	0	0	¾ covered	M. de Tastes.
Versailles, Observatory	29.30	744.1	29.79	756.6	46.0	7.8	77	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.24	742.6	29.96	760.9	48.2	9	86	NW	.....	.....	2	.....	2	.....	W	0	0	Slightly cld'y	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	71.6	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchésl
Paris, Montsouris Obs'y	29.51	749.5	.....	.....	46.8	8.2	81	WSW	.....	.....	3	.....	10	.....	W	Inap.	Inap.	Sprinkling	Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.34	770.6	30.36	771.2	37.9	3.3	81	NNW	11.9	5.3	.....	.....	10k	.....	.....	0.016	0.4	Covered	Marc Dechevrens, S.J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P,) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0 to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes 308.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.86	733.0	29.71	754.7	39.4	4.1	69	SW			8		10ks	W		0.116	0.4		Prof. Dr. Hoh.
Berlin	29.14	740.2	29.32	744.7	37.9	3.3	87	SW			6		10			0.094	2.4	Raining	Prof. Dr. Arndt.
Breslau	29.03	737.3	29.55	750.6	38.5	3.6	63	SW			6		10			0.006	0.14		Royal University Obs'y
Carlsruhe	29.35	745.5	29.78	756.5	43.5	6.4	76	SW			8		10	SW		0.016	0.4		Albert Senz.
Cassel	28.88	733.5	29.48	748.7	40.3	4.6	82	W			2		8	W		0.227	5.78		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.36	745.7	29.73	755.1	42.8	6.0	62	SW			5		10			0.028	0.7		Physical Society.
Friedrichshafen	28.43	722.1	29.89	759.2	43.2	6.2	60	SW			7		9	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.13	740.0	29.21	741.8	42.8	6.0	96	SW			6		10					Raining	Dr. Reinhold Kleeman.
Kiel	29.10	739.1	29.11	739.5	42.8	6.0	91	WSW			9		10			0.367	9.32		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.23	742.5	29.32	744.6	34.7	1.5	73	SW			6		9			0.024	0.6	Snowing	Prof. E. Luther.
Köslin			29.12	739.6	33.1	0.6		SW			4		8			0.114	2.9		H. Müller.
Leipsic Observatory	29.06	738.2	29.49	749.1	39.9	4.4	68	SW			5		10	WSW		0	0	Stormy	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.16	740.7	29.39	746.4	41.2	5.1	78	SSW			5		10ks	SW		0.051	1.3	Sprinkling	Dr. Assmann.
Memel	29.13	740.0	29.18	741.1	33.8	1.0	80	SW			5–6		10n						Reinbrecht & Issermann.
Munich (München)	27.97	710.4	29.85	758.1	41.2	5.1	41	W			5		9	W		0.055	1.4	Squally	Dr. C. Lang.
Neufahrwasser	29.18	741.1	29.19	741.5	34.0	1.1	87	SSW			6		10			0.055	1.4	Snowing	A. Lothes.
Neustadt (Palatinate)	29.17	740.8	29.69	754.0	45.1	7.3	88	SW			3		8	W		0	0		Reallehrer Dicknether.
Posen	29.10	739.0	29.39	746.5	37.4	3.0	83	SW			8		10			0.012	0.30		Prof. Dr. Magener.
Strassburg (in Alsace)	29.29	743.9	29.85	758.1	43.7	6.5	62	SW			6		10	WSW		0.015	0.38		Imp. University Observatory.
Stuttgart	28.82	731.9	29.72	754.9	42.3	5.7	60	W			2		10			0.008	0.2		Prof. Dr. Schoder.
Thorn	29.20	744.2	29.48	748.9	34.9	1.6	80	SW			5		10			0.091	2.3		Dr. Cunerth.
Weissenburg (Bavaria)	28.23	717.1	29.80	757.0	40.8	4.9	59	SW	6.9	3.1			9cks		W	0.020	0.5		Reallehrer J. Hopfner.
Wustrow	29.02	737.1	29.04	737.7	38.7	3.7	100	SSW			8		10			0.165	4.2	Raining	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.46	748.2	29.85	758.3	55.9	13.3		SW			1.0		10					Covered	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.89	759.2	29.94	760.5	74.0	23.3	47	W	7	3.1			0			0	0	Blue sky	
Deesa	29.58	751.3	30.05	763.4	82.5	28.1	6	NNE	10.7	4.8			0			0	0	Blue sky	
Bombay	29.88	759.1	29.92	760.0	78.5	25.8	60	NNW	22	9.8			0			0	0	Blue sky	
Poona (Yarrowda)	28.06	712.8	29.85	759.1	89.5	31.9	14	E	6	2.7			0			0	0	Blue sky	
Belgaum	27.36	695.1	29.86	758.4	85.5	29.7	28	ESE	3	1.3			5	NW	E	0	0	D. clouds	
Lahore	29.25	742.9	30.01	762.3	71.3	21.8	24	W	2.6	1.2			0			0	0	Blue sky	
Roorkee	29.05	737.9	29.98	761.5	65.8	18.8	36	NW	6.3	1.8			0			0	0		
Agra	29.45	748.0	30.03	762.7	73.7	23.2	22	W	9.0	4.0			2			0	0		
Nagpur	28.93	734.8	29.98	761.4	80.7	27.1	25	Calm	3.0	1.3			0			0	0	Blue sky	
Jubbulpore	28.64	727.4	30.03	762.8	72.0	22.2	15	N	1.9	0.8			0			0	0	Blue sky	
Lucknow	29.59	751.6	29.98	761.5	69.8	21.0	24	NNE	0.8	0.4			2			0	0	D. clouds	
Allahabad	29.68	754.0	30.01	762.2	68.8	20.4	35	NW	6.1	2.7			0			0	0	Blue sky	
Patna	29.79	756.7	29.98	761.4	72.7	22.6	28	W	1.3	0.6			0			0	0	Blue sky	
Hazaribagh	27.93	709.3	30.00	761.9	64.8	18.2	20	W	12.3	5.5			0			0	0	Blue sky	
Cuttack	29.89	759.2	29.97	761.3	80.3	26.8	41	NNE	1.8	0.8			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.0	29.98	761.6	69.6	20.9	48	NNW	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.54	750.4	29.94	760.5	68.3	20.2	38	WNW	1.1	0.5			0			0	0	Blue sky	
Chittagong	29.87	758.6	29.96	761.0	76.0	24.4	53	WNW	3.4	1.5			0			0	0	Misty	
Sibsagar	29.64	752.7	29.98	761.5	70.5	21.4	69	ENE	2.9	1.3			6	W	W	0.10	2.5	D. clouds	

Note. The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Upper 0—10.	Lower 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Udine	29.45	748.0	29.87	758.6	47.7	8.7	42	E	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.34	745.3	29.87	758.7	48.0	8.9	73	S	3.5	1.7	.....	.....	5	SE	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.78	756.4	29.80	756.3	47.3	8.5	47	E	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.0	29.91	759 6	41.5	5.3	85	NE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.65	753.1	29.85	758.1	47.7	8.7	55	NE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27 95	709.8	29.90	759.4	41.5	5.3	69	N	.....	.....	4	.....	1	N	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.87	758 6	45.7	7.6	86	NW	9.4	4.2	.....	.....	9	NW	.....	0.047	1.2	.....	Prof. Luigi Guidi.
Florence	29.58	751.3	29.84	757.9	52.7	11.5	46	N	.....	.....	4	.....	0	.....	.....	0.059	1.5	.....	Cav. F. Meucci
Leghorn	29.75	755.7	29.84	757.9	54.3	12.4	49	E	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.60	751.9	29.78	756.5	56.8	13.8	47	N	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.52	749.8	29.78	756.4	57.4	14.1	53	SW	6.8	2.8	.....	.....	8	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	28.86	733.1	29.76	755.9	56.6	13.6	76	NW	0	0	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.54	750.2	29.74	755.3	55.2	12.9	40	Calm	.....	.....	0	.....	7	SE	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.48	748.8	29.73	755.2	58.1	14.5	68	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Ciaccia tore.
Syracuse	29.66	753.4	29.71	754.5	55.0	12.8	77	NE	16.1	7.2	.....	.....	10	NE	.....	0.354	9.0	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.24	742.6	29.76	756.0	56.8	13.8	58	WNW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.29	769.3	30.31	769 9	40.8	4.9	68	NNE	9.2	4.1	.....	ck	9ks;cs	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	45.1	7.3	65	NNE	7.7	3.5	.....	.....	6cs;s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.93	760.2	30.00	762 0	45.5	7.5	55	N	12.6	5.6	.....	.....	9s	.....	.....	0.050	1.27	Cloudy	The Staff.
Wakayama	30.17	766.3	30.23	767.8	41.8	5.4	71	NNW	11.0	4.9	.....	.....	10ks;s	.....	.....	0	0	Cloudy	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Guadalajara	25.03	635.7	30.21	767.2	48.2	6.2	50	SW	.....	.....	1	5cs	0	.....	.....	0	0	⅛ clouded	Prof. L. Perez.
Leon	24.40	619.8	30.13	765.3	55.2	12.9	68	NW	.....	.....	1	5c	0	.....	.....	0	0	Fair	Prof. M. Leal.
Mazatlan	29.71	754.5	29.97	761.1	60.6	15.9	94	E	.....	.....	1	4ck	0	SW	.....	0	0	Fair	F. Quijano, C. E.
Mexico, Central Observatory	23.00	584.3	30.04	763.0	50.4	10.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	23.99	609.3	.....	.....	66.8	16 0	38	NE	.....	.....	3	0	0	.....	.....	0	0	Fine	M. Fena, M. D.
Pabellon (Aguascalientes)	23.93	607.9	30.02	762.6	50.2	10.1	46	NE	.....	.....	1	1c	0	.....	.....	0	0	Very clear	M. V. de Leon, M. E
Puebla (Catholic Institute)	23.35	593.2	30.26	768.6	48.2	6.2	46	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	Prof. P. Spina.
San Luis Potosi	24.10	612.1	30.11	764.8	52.2	11.2	39	NE	.....	.....	1	1	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Tlacotalpam	29.87	758.7	29.88	759.0	71.2	21.8	93	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	Prof. M. M. Chazaro.
Vera-Cruz	29.87	758.8	29.90	759.5	73.4	23.0	91	Calm	0	0	.....	.....	0sk	.....	SE	0	0	Foggy	Prof. J. Rossell
Zacatecas	22.54	572.5	30.20	767.0	52.3	11.3	47	Calm	.....	.....	0	3cs	0	SW	.....	0	0	Clear	J. C. Castrillon.

NOTE.—The elevation of Colima is 507.3 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.52	749.7	29.52	749.7	46.0	7.8	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	29.26	743.2	29.32	744.6	45 5	7.5	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.047	1.2	.....	
Helder	29.37	745.7	29.36	745.7	43.9	6.6	.....	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.46	748.2	29.46	748.2	45.7	7.6	93	WSW	.....	.....	6	.....	.....	.....	.....	0.079	2.0	.....	
Utrecht	29.41	747.0	29 46	748.2	46.6	8.1	88	WSW	.....	.....	5	.....	8	.....	.....	0.087	2.2	Very cloudy	H. v. d. Brink

NOTE.—The originals give the w[illegible]-pressure in kilograms per square meter, except Hellevoetsluis (which gives force by the scale 0 to 12); they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	28.61	726.7	28.67	728.1	33.8	1.0	72	NNW	31.8	14.2	.....	.....	4	.....	.....	0.732	18.6	Rain & snow	
Brönö	28.33	719.6	28.37	720.6	26.6	— 3.0	57	ENE	36	16	.....	.....	7	.....	.....	0	0	.....	
Christiana	28.29	718.5	28.43	722.2	33.8	1.0	89	WSW	0	0	.....	.....	10	.....	.....	0.079	2.0	Snowing	
Tromsö	28.66	728.0	28.71	729.1	18.0	— 7.8	91	E	4	2	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.08	764.1	30.30	769.5	57.2	14.0	82	NE	.....	.....	4	.....	6	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.94	735.0	29.94	760.4	57.2	14.0	44	ENE	4.9	2.2	.....	.....	4	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.77	756.1	29.85	758.3	61.2	16.2	62	NW	1.8	0.8	.....	.....	9	.....	.....	0.610	15.5	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.55	750.6	29.91	759.8	56.5	13.6	50	NE	13.7	6.1	.....	.....	2	ENE	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.07	763.6	30.14	765.4	58.6	14.8	72	NE	13.0	5.8	.....	.....	3	.....	.....	0.043	1.1	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. R. R. Bastos, Com'd't.
Quanza, Capt. Carlos Maria da Silva St. Paul de Loando	.....	.....	29.85	758.2	79.2	26.2	.....	W	.....	.....	2	.....	5	.....	W	2	W	D. clouds	C. J. de Sonna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto Praya, Cape Verd Ids.	.....	.....	30.06	763.5	74.1	23.4	.....	SW	.....	.....	2	.....	4	.....	.....	2	SSW	D. clouds	A. de Souza Roza, 2nd L't
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A de Brito Capello, N. 0° 27', E. 6° 45'	.....	.....	29.82	757.4	84.2	29.0	.....	SSW	.....	.....	3	.....	10	.....	.....	3	S	Overca t, 10 minutes rain-fall.	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimaraes, Macao, China	.....	.....	30.24	768.2	61.7	16.5	.....	N	.....	.....	4	.....	10	.....	N	1	.....	Foggy	A. Terceira, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no. hrmidity; duration of rain-fall in hours. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.82	731.9	28.84	732.4	21.6	— 5.8	93	SE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.24	768.1	30.16	766.0	32.4	0.2	67	S	7	3	.....	.....	1s	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	30.04	762.9	30.59	777.0	9.1	—12.7	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	28.88	733.5	29.12	739.7	30.4	— 0.9	73	SSW	11	5	.....	.....	9kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
Ekaterinburg	28.61	726.7	29.64	752.8	12.4	—10.9	72	SW	22	10	.....	.....	0	.....	.....	.....	.....	Snowing	Meteorological Obs.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kasan	29.24	742.8	29.53	750.1	16.7	— 8.5	91	S	7	3	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Kertch	29.97	761.1	29.98	761.6	43.2	6.2	96	S	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kieff	29.00	736.7	29.65	753.2	34.7	1.5	56	W	9	4	.....	ck	5ks	.....	.....	.....	.....	.....	Physical Cabinet.
Krotkowo*	29.20	741.7	29.71	754.5	14.7	— 9.6	74	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Faijano w.
Lugan	29.56	750.7	29.77	756.1	34.9	1.6	82	S	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	28.78	731.1	29.35	745.5	27.7	— 2.4	52	ESE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	28.09	713.5	30.71	780.0	— 8.1	—22.3	74	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.82	757.5	29.89	759.3	26.4	— 3.1	76	N	4	2	.....	.....	8cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.72	755.0	29.97	761.1	40.5	4.7	71	WSW	11	5	.....	.....	6ks	.....	.....	.....	.....	Light clouds	Kurdakof.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	29.04	737.7	29.06	738.1	28.6	— 1.9	72	WSW	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.54	725.0	30.16	766.0	45.3	7.4	59	NE	4	2	.....	.....	2	.....	.....	.....	.....	.....	Central Physical Obs.
Tiflis	28.71	729.3	30.16	766.1	48.2	9.0	46	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.09	738.9	29.52	749.9	36.7	2.6	60	SW	22	10	.....	.....	9cks	.....	.....	.....	.....	Solar corona	Astronomical Obs.
Wilna	29.00	736.7	29.43	747.6	33.1	0.6	71	SW	9	4	.....	.....	6	.....	.....	.....	.....	.....	Astronomical Obs.
Yeniselsk	30.27	768.8	30.58	776.7	18.9	— 7.3	69	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.81	757.2	29.92	759.9	51.4	10.8	65	S	4.1	1.83	.....	.....	1k	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	761.9	30.06	763.4	52.5	11.4	62	N	0.7	0.33	.....	.....	10	.....	.....	0.035	0.9	Covered	Prof. Manuel de Nuveran
Burgos, Met. Obs'y	26.96	684.8	.....	.....	41.5	5.3	60	N	12.5	5.59	.....	0	0	.....	.....	0	0	Clear	Domingo Martiny Perez.
Madrid, Royal Observatory	27.06	702.6	29.90	759.4	53.2	11.8	46	N	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.75	755.6	29.90	759.4	62.4	16.9	54	SW	1.3	0.58	.....	0	5	.....	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.04	737.5	29.94	760.5	50.5	10.3	60	NE	16.1	7.2	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanneva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.06	763.5	30.13	765.2	68.5	20.3	80	ESE	2.7	1.2	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.92	760.1	29.99	761.4	82.6	28.1	61	SE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.77	756.2	29.87	758.7	62.1	16.7	66	ESE	15.0	6.7	.....	0	6	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.4	29.99	761.7	75.2	24.0	77	NE	9.7	4.34	.....	4cs	8ck	NE	NE	0	0	D. clouds	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.60	726.5	28.64	727.5	21.2	— 6.0	.....	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....
Umea	28.66	728.0	28.71	729.3	21.6	— 5.8	95	SW	.....	.....	2	.....	2	.....	.....	0.256	6.5	.....	.....
Hernosand	28.55	725.2	28.60	726.5	27.3	— 2.6	79	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	.....
Stockholm	28.47	723.1	28.64	727.6	32.7	0.4	92	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	.....
Wisby	28.71	729.3	28.77	730.8	32.0	0.0	96	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	.....
Sub-Series.																			
Upsala	28.68	724.7	28.62	726.9	30.9	— 0.6	92	SSE	17.0	7.6	.....	.....	10	.....	.....	0.182	3.35	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Schonmeyr.
H. M. Corvette Saga	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.49	723.6	29.94	760.4	46.4	8.0	39	SSE	.....	.....	2	.....	6	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.24	717.3	29.92	759.9	42.8	6.0	55	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.0 mm.; Thermometer, +2.8 Cent. Relative Humidity, —38 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.95	760.7	50.9	10.5	42	SSE	0	0	.....	.....	8	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.77	756.2	57.6	14.2	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	.....	.....	30.07	763.8	60.8	16.0	65	NNE	.....	.....	2	ck	8n	.....	.....	0	0	.....	Prof. C. V. A. van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	30.20	767.1	30.22	767.6	25	— 3.9	.....	NW	4	1.8	.....	8ck	0	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Chatham, N. B	30.24	768.1	30.30	769.6	24.5	— 4.2	87	Calm	0	0	.....	2ck	0	W	.....	0.01	0.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.26	768.6	30.30	769.6	28.2	— 2.1	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.96	761.0	30.5	— 0.8	91	W	.....	.....	4	0	2s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.12	765.0	30.30	769.6	21.5	— 5.8	.....	W	.....	.....	2	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Father Point, Quebec	.....	.....	.....	.....	10.4	— 7.0	85	N	2	0.9	.....	8k	5s	N	.....	0	0	Clearing	J. McWilliams.
Fredericton, N. B	30.29	769.4	30.36	771.1	24.0	— 4.4	78	NW	5	2.2	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
Fort Garry, Manitoba	29.57	751.1	30.58	776.7	—31.0	—35.0	100	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.70	729.0	29.81	757.2	41.0	5.0	100	S	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	James Grant.
Halifax, N. S	30.19	766.8	30.32	770.1	34.3	1.3	97	NW	2	0.9	.....	0	mist	.....	.....	0.312	7.92	Clear	A. Allison.
Hamilton, Ontario	29.56	750.8	29.94	760.5	37.5	3.1	72	NE	.....	.....	1	10cs	0	NE	.....	0	0	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
Kingston, Ontario	29.60	751.8	29.95	760.7	31.7	— 0.2	87	E	5	2.2	.....	5c	1s	.....	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.24	768.1	30.28	769.1	32.2	0.1	87	N	4	1.8	.....	7k	0	N	.....	Inap.	Inap.	Fair	C. H. Rigby.
Montreal, Quebec	29.87	758.7	30.08	764.0	29.9	— 1.2	86	NE	1	0.4	.....	8k	1ks	W	.....	0	0	Fair	C. H. McLeod, C. E
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nelson.
Norwood, Ontario	29.18	741.1	29.90	759.4	30.5	— 0.8	95	E	5	2.2	.....	7ck	0	NW	.....	0	0	Fair	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	29.13	739.9	29.85	758.2	33.0	0.6	95	E	17	7.6	.....	.....	10n	.....	.....	0.26	6.6	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.15	740.4	29.92	760.0	32.4	0.2	69	NE	.....	.....	1	10k	0	.....	.....	0	0	Cloudy	J. F. Jeffers, M. A.
Port Dover, Ontario	29.17	740.9	29.88	758.9	37.0	2.8	100	Calm	0	0	.....	.....	10n	.....	.....	0.02	0.5	Threatening	H. Morgan.
Port Stanley, Ontario	29.20	741.7	29.86	758.4	43.2	6.2	83	E	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	M. Payne.
Quebec, Quebec	29.87	758.7	30.20	767.3	24.0	— 4.4	87	NE	.....	.....	5	.....	10n	.....	.....	0.02	0.5	Cloudy	Capt. Ashe, R. N.
Rockliffe, Ontario	29.52	749.8	30.01	762.2	24.1	— 4.4	77	E	8	3.6	.....	.....	10n	.....	.....	0.10	2.5	Threatening	W. H. McIntyre.
St. John, N. B	30.16	766.1	30.33	770.4	29	— 1.7	88	NE	4	1.8	.....	0	1s	.....	.....	0	0	Clear	G. Murdock, C. E.
Saugeen, Ontario	29.04	737.6	29.76	755.9	43.1	6.2	83	S	20	8.9	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.52	724.4	29.83	757.7	36.0	2.2	97	SE	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B	30.18	766.6	30.22	767.6	35.2	1.8	88	SW	1	0.4	.....	0	9ks	.....	.....	0	0	Fair	T. C. Hill, C. E.
Toronto, Ontario	29.50	749.3	29.90	759.4	33.5	1.9	93	E	10	4.5	.....	.....	10ks	.....	.....	0.020	0.51	Cloudy	Magnetic Observatory
Windsor, N. S	30.20	767.1	30.30	769.6	31.0	— 0.6	100	Calm	0	0	.....	4k	5ks	.....	.....	0	0	Fair	Prof. John E. Oram, M. A
Woodstock, Ontario	28.76	730.5	29.85	758.2	35.6	2.0	100	E	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast	Professor Wolverton.
Yarmouth, N. S	30.26	768.6	30.33	770.4	34.0	1.1	89	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.03	762.7	40	4.4	100	W	.....	.....	.....	.....	10	.....	.....	0	0	Fair	John Delany.
St. Pierre, N. F., l'Hopital Maritime	.....	.....	30.04	763.0	34.9	1.6	.....	W	.....	.....	2	.....	.....	.....	.....	6	0	.....	The Commandant.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0-10.	CLOUDS. Amount. Up'er 0-10.	CLOUDS. Amount. Lo'er 0-10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.53	760.2	30.16	766.1	35	1.7	90	S	1	0.4	.....	5k	Fog;sm	W	Calm	0	0	Fair	
Alpena, Michigan	29.18	741.1	29.85	758.2	28	— 2.2	88	NE	19	8.5	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Atka, Aleutian Is., Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Atlanta, Georgia	28.92	734.6	30.06	763.5	59	15.0	91	SW	6	2.7	.....	10c	0	SW	.....	Inap.	Inap.	Cloudy	
Atlantic City, New Jersey	30.21	767.3	30.23	767.8	45	7.2	92	SE	6	2.7	.....	10c;ck	0	NW	.....	0.02	0.5	Cloudy	
Augusta, Georgia	29.97	761.2	30.17	766.3	60	15.6	88	Calm	0	0	.....	5cs	Fog	SW	Calm	0	0	Fair	
Baltimore, Maryland	30.15	765.8	30.20	767.1	53	11.7	80	SE	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Barnegat, New Jersey	30.18	766.6	30.21	767.3	45	7.2	100	S	10	4.5	.....	8cs	Fog	W	Calm	0	0	Cloudy	
Bismarck, Dakota	28.38	720.8	30.24	768.1	—12	—24.4	100	NE	8	3.6	.....	Haze	Haze	.....	.....	0.02	0.5	Hazy	
Boerne, Texas	28.45	722.6	29.73	755.1	64	17.8	100	Calm	0	0	.....	.....	Fog	.....	SE	0	0	Dense fog	
Boise City, Idaho	27.31	693.7	30.27	768.8	19.5	— 6.9	77	SE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	30.14	765.5	30.30	769.6	40	4.4	82	Calm	0	0	.....	8k	0	Calm	.....	0	0	Fair	
Brackettville, Texas	28.66	728.0	29.68	753.9	63	17.2	94	NE	8	3.6	.....	0	8ks	.....	E	0	0	Fair	
Breckenridge, Minnesota	29.06	738.1	30.19	766.8	— 5	—20.6	100	N	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.80	756.9	29.85	758.2	74	23.3	90	S	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Buffalo, New York	29.18	741.1	29.86	758.4	53	11.7	73	S	9	4.0	.....	.....	10n	.....	S	0.02	0.5	Light rain	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.77	756.1	30.07	763.8	37	2.8	81	SE	11	4.9	.....	5ck	2ks	W	SW	Inap.	Inap.	Fair	
Cairo, Illinois	29.47	748.5	29.85	758.2	59	15.0	94	SW	8	3.6	.....	.....	10s	.....	SW	0.77	19.6	Threatening	
Campo, California	27.39	695.7	29.96	761.0	39	3.9	64	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.19	766.8	30.20	767.1	53	11.7	100	NE	4	1.8	.....	8k	0	NW	.....	0	0	Cloudy	
Cape Henry, Virginia	30.18	766.6	30.20	767.1	51	10.6	93	SW	15	6.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cape Lookout, N. Carolina	30.18	766.6	30.19	766.8	58	14.4	100	NE	9	4.0	.....	5c	Haze	NE	Calm	0	0	Light haze	
Cape May, New Jersey	30.17	766.3	30.20	767.1	48	8.9	92	SE	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Castroville, Texas	29.08	738.6	29.76	755.9	68	20.0	84	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Cedar Keys, Florida	30.16	766.1	30.19	766.8	67	19.4	84	SE	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.11	764.8	30.16	766.1	60	15.6	88	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charlotte, North Carolina	29.26	743.2	30.07	763.8	56	13.3	87	NE	2	0.9	.....	10cs	Sm'e	SW	Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.22	742.2	30.00	762.0	64	17.8	73	SW	12	5.4	.....	5cs	1s	W	Calm	0.08	2.0	Fair	
Cheyenne, Wyoming	23.73	602.7	29.67	753.6	2	—16.7	72	NW	28	12.5	.....	0	0	.....	.....	0.01	0.3	Clear	
Chicago, Illinois	29.00	736.6	29.70	754.4	40	4.4	82	N	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.26	743.2	29.89	759.2	59	15.0	82	S	6	2.7	.....	.....	10n	.....	SW	0.06	1.5	Light rain	
Cleveland, Ohio	29.12	739.6	29.82	757.4	57	13.9	69	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Coleman City, Texas	28.15	715.0	29.89	759.2	30	— 1.1	68	N	22	9.8	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Columbus, Ohio	30.05	763.3	29.87	758.7	56	13.3	81	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Concho, Texas	28.19	716.0	29.94	760.5	36	2.2	90	E	4	1.8	.....	.....	10n	.....	N	0.13	3.3	Light rain	
Corsicana, Texas	29.46	748.3	29.94	760.5	51	10.6	86	NW	12	5.4	.....	.....	10ks	.....	Calm	0.13	3.3	Threatening	
Davenport, Iowa	29.12	739.6	29.75	755.6	39	3.9	82	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dayton, Washington T'y	.....	.....	.....	.....	18	— 7.8	84	W	.....	.....	1	5k	0	NW	.....	0	0	Fair	
Deadwood, Dakota	25.21	640.3	.....	.....	—23	—30.6	.....	Calm	0	0	.....	0	0	.....	.....	0.11	2.8	Clear	
Decatur, Texas	29.92	760.0	30.19	766.8	22	— 5.6	58	NW	12	5.4	.....	.....	10s	.....	NW	0.15	3.8	Cloudy	
Delaware Breakwater, Del.	30.17	766.3	30.19	766.8	44	6.7	100	SW	19	8.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Denison, Texas	29.17	740.9	30.01	762.2	28	— 2.2	88	NE	11	4.9	.....	.....	10s	.....	NE	1.15	29.2	Cloudy	
Denver, Colorado	24.60	624.8	29.82	757.4	— 6	—21.1	61	S	5	2.2	.....	0	0	.....	.....	0.10	2.5	Clear	
Des Moines, Iowa	28.90	734.0	29.79	756.7	36	2.2	80	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.11	739.4	29.76	755.9	50	10.0	86	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Dodge City, Kansas	27.46	697.5	30.04	763.0	— 4	—20.0	65	W	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.07	738.4	29.78	756.4	31	— 0.6	79	N	11	4.9	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Duluth, Minnesota	29.40	746.7	30.15	765.8	10	—12.2	90	NE	10	4.5	.....	.....	10n	.....	NE	0.20	5.1	Heavy snow	
Eagle Pass, Texas	29.11	739.4	29.83	757.7	59	15.0	43	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.25	768.3	30.32	770.1	30	— 1.1	73	NW	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	73	22.8	90	S	.....	.....	4	.....	10s	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Erie, Pennsylvania	29.14	740.1	29.84	757.9	55	12.8	68	S	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Escanaba, Michigan	29.25	742.9	29.93	760.2	22	— 5.6	72	N	23	10.3	.....	.....	10s	.....	N	0.08	2.0	Cloudy	
Florence, Arizona	28.49	723.6	30.09	764.3	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Apache, New Mexico	24.99	634.7	30.44	773.2	32	0.0	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Assiniboine, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Buford, Dakota	28.11	714.0	30.24	768.1	—15	—26.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Custer, Montana	26.70	678.2	.....	.....	—17	—27.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.07	636.8	30.03	762.7	56	13.3	14	S	7	3.1	.....	Haze	8s	Calm	SW	0	0	Cloudy	
Fort Elliot, Texas	26.97	685.0	29.26	743.2	6	—14.4	28	N	20	8.9	.....	10cs	0	N	.....	0	0	Cloudy	
Fort Gibson, Indian Ter	29.45	748.0	30.02	762.5	22	— 5.6	86	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Grant, Arizona	25.10	637.5	29.90	759.4	40	4.4	41	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.75	730.2	30.10	764.5	25	— 3.9	62	N	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.45	697.2	.....	.....	—14	—25.6	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.63	701.8	29.53	750.0	52	11.1	73	NE	5	2.2	.....	.....	10ks	.....	SW	0.03	0.8	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Shaw, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	30.02	762.5	17	— 8.3	51	N	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Verde, Arizona	.....	.....	.....	.....	31	— 0.6	69	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Yates, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.64	752.8	57	13.9	63	SW	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.90	759.4	29.94	760.5	68	20.0	100	S	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Grand Haven, Michigan	29.04	737.6	29.68	753.9	43	6.1	92	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Helena, Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Henrietta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indianapolis, Indiana	29.04	737.6	29.80	756.9	56	13.3	87	SE	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
Indianola, Texas	29.89	759.2	29.91	759.7	67	19.4	95	S	9	4.0	.....	5c	Haze	Calm	Calm	0	0	Fair	
Jacksboro, Texas	28.84	732.5	30.06	763.5	21	— 6.1	86	N	16	7.2	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Jacksonville, Florida	30.17	766.3	30.19	766.8	64	17.8	84	SE	7	3.1	.....	2cs	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.09	738.9	29.71	754.6	41	5.0	82	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	30.12	765.0	30.15	765.8	72	22.2	71	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.20	767.1	30.22	767.6	50	10.0	100	SE	11	4.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Knoxville, Tennessee	29.01	736.8	30.01	762.2	54	12.2	97	NE	2	0.9	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy	
La Crosse, Wisconsin	29.06	738.1	29.83	757.7	26	— 3.3	88	N	8	3.6	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	40	4.4	39	Calm	0	0	.....	2c	1s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.49	749.0	29.82	757.4	70	21.1	61	E	5	2.2	.....	5k	0	W	.....	0	0	Fair	
Leavenworth, Kansas	29.06	738.1	29.96	761.0	13	—10.6	81	NW	15	6.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Lewiston, Idaho	.....	.....	.....	.....	16	— 8.9	83	N	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Little Rock, Arkansas	29.54	750.3	29.89	759.2	60	15.6	100	S	4	1.8	.....	.....	10n	.....	S	4.46	113.3	Light rain	
Los Angeles, California	29.69	754.1	30.04	763.0	44.0	6.7	84	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Louisville, Kentucky	29.31	744.5	29.86	758.4	58	14.4	94	SE	7	3.1	.....	.....	10n	.....	Calm	0.49	12.4	Light rain	
Lynchburg, Virginia	29.46	748.3	30.14	765.5	55	12.8	81	S	1	0.4	.....	.....	10n	.....	S	0.04	1.0	Light rain	
Madison, Wisconsin	28.75	730.2	29.76	755.9	28	— 2.2	88	NE	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.27	743.4	30.01	762.2	23	— 5.0	86	NE	12	5.4	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Mason, Texas	28.20	716.3	29.91	759.7	62	16.7	83	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Memphis, Tennessee	29.57	751.1	29.91	759.7	59	15.0	100	SE	4	1.8	.....	.....	10n	.....	SE	0.75	19.1	Light rain...	
Milwaukee, Wisconsin	28.98	736.1	29.72	754.9	34	1.1	90	N	13	5.8	.....	.....	10n	.....	.....	0.06	1.5	Light rain...	
Mobile, Alabama	30.04	763.0	30.08	764.0	64	17.8	94	Calm	0	0	.....	2c	Fog	W	.....	0	0	Clear.	
Montgomery, Alabama	29.89	759.2	30.12	765.0	61	16.1	94	.....	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Morgantown, West Virginia	28.97	735.8	29.93	760.2	62	16.7	56	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.84	605.5	30.20	767.1	28	— 2.2	67	SW	48	21.5	.....	2c	0	SW	.....	0	0	Clear.	
Nashville, Tennessee	29.46	748.3	29.98	761.5	60	15.6	94	E	1	0.4	.....	.....	10s	.....	SW	1.01	25.7	Cloudy	
New Haven, Connecticut	30.14	765.5	30.20	768.6	45	7.2	76	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.22	767.6	30.27	768.8	44	6.7	68	NE	4	1.8	.....	6ck	0	W	.....	0	0	Fair	
New Orleans, Louisiana	29.98	761.5	30.04	763.0	68	20.0	84	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Newport, Rhode Island	30.21	767.3	30.26	768.6	44	6.7	68	E	5	2.2	.....	10ck	0	NW	.....	0	0	Cloudy	
New River, North Carolina	.....	.....	.....	.....	56	13.3	93	E	.....	.....	1	8cs	Haze	W	Calm	.....	.....	Cloudy	
New York, New York	30.05	763.3	30.23	767.8	45	7.2	92	NE	8	3.6	.....	5ck	Fog	Calm	Calm	0	0	Foggy	
Norfolk, Virginia	30.13	765.3	30.19	766.8	53	11.7	80	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.07	687.6	29.96	761.0	— 6	—21.1	81	N	20	8.9	.....	.....	10n	.....	N	0.03	0.8	Light snow.	
Olympia, Washington Ter	30.20	767.1	30.24	768.1	30.0	— 1.1	94	S	9	4.0	.....	.....	10n	.....	SW	0.01	0.3	Light snow.	
Omaha, Nebraska	28.77	730.7	29.98	761.5	3	—16.1	73	NW	22	9.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
Oswego, New York	29.64	752.6	29.95	760.7	46	7.8	77	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Pembina, Dakota	29.46	748.3	30.44	773.2	— 23	—30.6	100	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Pensacola, Florida	30.09	764.3	30.12	765.0	68	20.0	90	SE	10	4.5	.....	5cs	0	S	.....	0	0	Fair	
Philadelphia, Pennsylvania	30.14	765.5	30.19	766.8	52	11.1	66	SW	3	1.3	.....	8cs	Haze	Calm	Calm	0	0	Cloudy	
Phœnix, Arizona	28.83	732.3	30.08	770.3	44	6.7	68	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.14	435.4	29.35	745.5	—27	—32.8	100	W	36	16.1	.....	.....	10n	.....	Calm	0.21	5.3	Light snow.	
Pilot Point, Texas	29.32	744.7	30.19	766.8	29	— 1.7	69	NW	10	4.5	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Pioche, Nevada	24.04	610.6	29.81	757.2	9	—12.8	57	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.13	739.9	29.92	760.0	57	13.9	69	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Port Huron, Michigan	29.08	738.6	29.72	754.9	50	10.0	79	S	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy	
Portland, Maine	30.26	768.6	30.32	770.1	39	3.9	73	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear.	
Portland, Oregon	30.29	769.4	30.37	771.4	28.5	— 1.9	55	SE	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Portsmouth, North Carolina	.....	.....	.....	.....	58	14.4	94	E	7	3.1	.....	5k	0	SE	.....	0	0	Fair	
Prescott, Arizona	24.72	627.9	30.08	764.0	23	— 5.0	73	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.13	765.3	30.15	765.8	65	18.3	84	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Red Bluff, California	29.78	756.4	30.15	765.8	41	5.0	25	N	15	6.7	.....	0	0	.....	.....	0	0	Clear.	
Rio Grande City, Texas	29.62	752.3	29.83	757.7	69	20.6	85	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.28	743.7	29.88	758.9	51	10.6	79	SW	10	4.5	.....	9k	0	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.80	756.9	30.41	772.4	25.5	— 3.6	87	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	30.02	762.5	30.10	764.5	37	2.8	63	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.18	741.1	29.74	755.4	54	12.2	87	NW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Paul, Minnesota	29.05	737.9	29.93	760.2	17	— 8.3	67	N	16	7.2	.....	.....	10s	.....	N	0.23	5.8	Cloudy	
Salt Lake City, Utah	25.78	654.8	30.11	764.8	9	—12.8	57	NE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
San Antonio, Texas	29.20	741.7	29.77	756.1	68	20.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.99	761.7	30.06	763.5	46	7.8	84	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.17	740.9	29.82	757.4	56	13.3	81	S	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	30.10	766.8	30.22	767.6	44	6.7	84	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Francisco, California	30.05	763.3	30.11	764.8	44	6.7	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	18	— 7.8	37	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.09	764.3	30.18	766.6	61	16.1	88	S	5	2.2	.....	8c	Fog	W	Calm	0	0	Fair	
Shreveport, Louisiana	29.68	753.9	29.89	759.2	69	20.6	85	S	8	3.6	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.17	766.3	30.20	767.1	59	15.0	94	NE	4	1.8	.....	2c	Haze	Calm	.....	0	0	Fair	
Socorro, New Mexico	25.37	644.4	29 44	747.8	30	— 1.1	47	N	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.09	738.9	29.75	755.6	50	10.0	79	NW	8	3.6	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Springfield, Massachusetts	30.13	765.3	30.26	768.6	39	3.9	82	N	1	0.4	.....	5cs	Fog	W	.....	0	0	Fair	
Stockton, Texas	26.87	682.5	29.87	758.7	50	10.0	32	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.23	767.8	30.28	769.1	41	5.0	82	NE	7	3.1	.....	5ck	Haze	Calm	.....	0	0	Fair	
Toledo, Ohio	29.12	739.6	29.78	756.4	54	12.2	87	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Threatening	
Tucson, Arizona	27.62	701.5	30.17	766.3	46	7.8	61	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.98	761.5	30.52	775.2	19	— 7.2	77	SE	4	1.8	.....	10cs	0	N	.....	0	0	Cloudy	
Uvalde, Texas	28.98	736.1	29.78	756.4	67	19.4	89	E	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.02	762.5	65	18.3	89	SE	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.06	611.1	29.64	752.8	— 5	—20.6	63	Calm	0	0	.....	8c	0	W	.....	0	0	Fair	
Visalia, California	29.67	753.6	30.05	763.3	40.5	4.7	86	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	30.05	763.3	30.16	766.1	54	12.2	74	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, North Carolina	30.10	764.5	30.18	766.6	58	14.4	88	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.77	654.6	30.13	765.3	13	—10.6	81	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Massachusetts	30.22	767.6	30.18	766.6	48	8.9	95	E	8	3.6	.....	.....	10s	.....	SW	0.21	5.3	Cloudy	
Yankton, Dakota	28.72	729.5	30.19	766.8	— 7	—21.7	100	NW	25	11.2	.....	.....	10n	.....	NW	0.06	1.5	Light snow.	
Yuma, Arizona	29.88	758.9	30.03	762.7	50	10.0	20	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	21.96	557.8	.....	.....	56.5	13.6	70	Calm	.....	.....	0	8cs	0	.....	.....	0	0	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	30.03	762.7	30.08	764.0	71	21.7	71	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear.	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	73	22.8	86	Calm	0	0	.....	2k	Haze	Calm	.....	.....	.....	Fair	James Gall.
Nassau, W. I.	29.94	760.5	30.02	762.5	76	24.4	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29 96	761.0	29 96	761.0	77	25.0	91	E	.....	.....	.....	2	.....	8ks	E	1.350	34.29	Cloudy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.34	745.2	29.89	759.2	82	27.8	80	N	.....	.....	.....	1	.....	8s	.....	0.15	3.8	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.76	781.3	30.82	782.8	—42.0	—41.1	.....	NE	10	4.5	.....	3k	1s	S	SE	0.01	0.3	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,181.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.5 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,047.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,586 (?) m.; Fort Elliot, 2,500 (?) feet, or 762 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1 800 (?) ft., or 549 (?) m.; Mt Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,551 (?) ft., or 2 088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,000 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.34 in., or 110.7 mm.; Virginia City, 5.48 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	30.09‡	764.3‡			68	20.0	90	SE	4	1.8			0			0	0			Clear	
Navy Yard, Portsmouth, N. H	30.26‡	768.3‡			32	0.0	89	N	2	0.9			0							Clear	
Naval Hospital, Yokohama, Japan	29.97‡	761.2‡			46.8	8.2	49	NE			6		8k		SSW	0.88	22.4			Cloudy	
Adams, Gulf of Dulce, Costa Rica	29.84‡	757.9‡			82	27.8	74	NNW			1		5		NNW			Smooth	ENE	Fair	
Colorado, New York, N. Y.	30.17‡	766.3‡			22	— 5.6		Calm	0	0			8			0	0			Foggy	
Constitution, Aspinwall, Panama	29.90‡	759.4‡			77	25.0	95	NNE			4		10		NNE			Mod'ate	NNE	Cloudy	
Enterprise, Naples, Italy	29.80‡	756.9‡			56	13.3	69	SW			2		1		SW			Smooth		Clear	
Franklin, Off Navy Yard, Norfolk, Va.	30.22‡	767.6‡			53	11.7	86	SE	3.6	1.6			8		SE	0	0			Cloudy	
Independence, Mare I'd, Navy Yard, Cal.	30.07‡	763.8‡			44	6.7	92	SE	1.2	0.5			0			0	0			Clear	
Kearsarge, Boca del Toro, Chiriqui	29.97‡	761.2‡			75	23.9	86	WNW			2		10		W			Smooth		Light rain	
Lackawana, Navy Yard, Mare I'd., Cal.	30.05‡	763.3‡			43	6.1	100	E			0-1		10?							Clear	
Marion, S. 34° 55′, W. 55° 55′	29.99‡	761.7‡			67	19.4	64	SE			5		5		S;E	Light	Light	Smooth		Fair	
Michigan, Erie, Pa.	29.82‡	757.4‡			54	12.2	74	S			3		10		SW					Cloudy	
Minnesota, New London, Conn	30.23‡	767.8‡			40	4.4	83	N			1-2		8		W					Cloudy	
Monocacy, Shanghai, China	30.49‡	774.4‡			39	3.9	82	NNE			2		8		NE					Cloudy	
New Hampshire, Port Royal, S. C.	30.16‡	766.1‡			60	15.6	100	SSE	7	3.1			9		W	0	0			Foggy	
Nipsic. N. 27° 40′ W. 72° 50′	30.20‡	767.1‡			71	21.7	75	N			3		8		N					D. clouds	
Onward, Callao, Peru †.	29.87‡	758.7‡			68	20.0	100	SSE			3		10					Long	W	Misty	
Palos, Tientsin, China	30.64‡	778.2‡			30	— 1.1	??	SE			1		5?							Overcast?	
Passaic, Washington, D. C.	30.18‡	766.6‡			55	12.8	93	SE			1		8							Cloudy	
Pensacola, Panama, Panama	29.84‡	757.9‡			73	22.8	90	NNW			0-1		5					Smooth		D. clouds	
Powhatan, Norfolk, Va.	30.20‡	767.1‡			54	12.2	93	SE			1		10							Foggy	
Quinnebang, Leghorn, Italy	29.79‡	756.7‡			64	17.8	53	ENE			1		2		ENE					Fair	
Richmond, Hong-Kong, China	30.18‡	766.6‡			59	15.0	94	N			1-2		10		NNE	0.30	7.6	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas †	29.99‡	761.7‡			70	21.1	100	SSE	3	1.3			8		SSE	0	0			Fair	
Santee, Annapolis, Md	30.21‡	767.3‡			50	10.0	86	SSW			3		10			0	0			Cloudy	
Shenandoah, Montevideo, Uruguay	30.01‡	762.2‡			66	18.9	79	SSE			5		5		SSE			Rough	SSE	Fair	
St. Louis, League Island, Pa.	30.21‡	767.3‡			45	7.2	84	S	2	0.9			8		S	0	0			Fair	
Swatara, Marsa el Zeitoun, N 37°, E 7°	29.86‡	758.4‡			57	13.9	87	N			4		2		N			Mod'ate	N	Clear	
Tennessee, Norfolk, Va.	30.21‡	767.3‡			57	13.9	93	ESE	7	3.1			10		Calm			Smooth		Foggy	
Trenton, Villefranca, France	29.76‡	755.9‡			64	17.8	53	E			2		2			0	0			Clear	
Tuscarora, Acapulco, Mexico	29.94‡	760.5‡			76	24.4	68	N			0-1		0			0	0	Smooth		Clear	
Vandalia, Navy Yard, Brooklyn, N. Y.	30.24‡	768.1‡			43	6.1	92	ENE			1		9		W					Cloudy	
Wabash, Boston, Mass.	30.29‡	769.4‡			38	3.3	81	Calm	0	0			8			0	0			Foggy	
Wachusett, Montevideo, Uruguay †	30.54‡	785.7‡			67	19.4	74	SSE			5		2		S			Smooth	S	Fair	
Wyoming, Naples, Italy	29.73‡	755.1‡			56	13.3	69	SSW			1		2		SW			Smooth	SW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. * The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian,																			R. Carruthers.
S. S. Hibernian, F. Archer.																			
S. S. Moravian, J. Graham, N. 43° 30′, W. 58° 30′	30.10‡	766.8‡	37	2.8	71	NW			2		10		SSW	3 hr's	3 hr's	Mod'ate	SE	Fine	John France.
S. S. Peruvian,																			
S. S. Sardinian, J. E. Dutton																			A. Christie & F. W. Erskine
S. S. Sarmatian, A. D. Air,																			A. D. Air.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.

S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, jr
S. S. Indiana, R. W. Sargent N. 36° 29′, W. 26° 04′	29.96‡	761.0‡	54	12.2	80	WNW			6		7		WNW	Mod'ate	Mod'ate	Mod'ate	WNW	Fair	
S. S. Ohio, Henry Morrison, N. 51° 43′, W. 7° 59′ †*	29.81‡	757.2‡	56	13.3		WNW			2		5		NW	Blank	Blank	Light	NW	Fair	Wm. Shackford.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.

S. S. Newbern, W. Metzger.																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S. S. Algeria, W. Watson.																			
S. S. Scythia, W. H. O. Hains																			H. Buckland.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.

S. S. Amerika, C. Pohle																			
S. S. Braunschweig, C. Undutsch																			C. Undütsch.
S. S. Leipzig, F. Pfeiffer, N. 38° 51′, W. 71° 28′	30.27‡	768.8‡	54.0	12 2	93	NW			1		5		NW	0	0	Smooth	NW	Cloudy	S. Risius.
S. S. Ohio, G. Meyer,																			

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.

S. S. Belgic, L. Meyer, Hong Kong, China †:	30.15‡	765.8‡	58	14.4	94	N			2		10		N					Cloudy.	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, San Francisco, Cal. †	30.14‡	765.5‡				SE			3	c		SE		0	0	Smooth		Clear	J. A. Thompson.
S. S. Oceanic, Metcalf																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.

S. S. Geo. W. Elder, J. M. Lachlan																			
S. S. Oregon																			J. M. Lachlan.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.

S. S. Ancon, E. Alexander, Santa Barbara, Cal. †	30.06‡	763.5‡	61	16.1		NW			3		0			0	0			Clear	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.			Character.	Direction from—		
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.				
PACIFIC MAIL S. S. CO., MARINE SERIES.																			
Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.																			
S. S. Alaska, D. S. Austin, N. 7° 12′, W. 81° 25 ...†	29.74‡	755 4‡	81	27.2	87	SE			3		5		SSE	0	0	Smooth	SSE	Fair	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly, Panama†	29.83‡	757.7‡	73	22.8		NNW			1		5		NNW	10 min.	10 min.	Smooth		Cloudy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 16° 12′, W. 98° 02′†	29.87‡	758.7‡	79	26.1	82	NNE			2		0			0	0	Smooth	Confused	Blue sky	
S. S. Dakota, D. E. Griffiths Seattle, Washington Ty..†	30.35‡	770.9‡	36	2.2		Calm			0					0	0			Clear	D. E. Griffiths.
S. S. Granada, J. M. Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 5° 01′, W. 164° 20′	29 78	756.4‡				ESE			4				SE			Mod'ate	N	Fine	

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE. MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes. N. 48° 32′, W. 15° 17′...†.	29.94‡	760.5‡	53	11.7		NNW	2	0.9			8		NNW	0	0	Mod'ate	NNW	Cloudy	J. Farmer & W. Apetan.

Note—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry,																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

Note—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Addie Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury. S 34° 49′, E. 138° 25′	30.04‡	763.0‡	69	20.6		SSW			4		2		S					Fair	B. F. Woodbury.
Brigantine George, W. H. Champlin.																			
Iron Cross, W. Randall, N. 17° 00′, W. 45° 20′	29.89‡	759.2‡	75	23.9	95	SSW			5		7		WNW	0	0	Long	WNW	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

Note.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 29, 1880.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time

1:57 P. M. CAPE TOWN, C. G. H., mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.93	760.1	.....	.....	.....	W	.....	.....	.....	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	29.92	760.0	61.7	16.5	81	Calm	.....	.....	0	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.92	759.9	58.3	14.6	53	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilliere.
La Calle	.....	.....	29.93	760.3	57.4	14.1	67	NW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Fonfrède.
Tunis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques
Sfax	.....	.....	29.98	761.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.90	759.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herbin.
Tebessa	.....	.....	30.00	762.0	48.4	9.1	42	N	.....	.....	2	.....	4	.....	.....	3	0	Cloudy	Watrin.
Geriville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brugniaux.
Laghouat	.....	.....	29.97	761.3	52.2	11.2	65	NE	.....	.....	1	.....	10	.....	.....	Inap.	Inap	Covered	Bertrand.
Biskra	.....	.....	29.93	760.2	56.6	13.6	90	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give no distinction between upper and lower clouds. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville 1,360? m., or 4,462? feet.

AUSTRO-HUNGARIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.91	744.4	29.86	758.5	49.5	9.7	53	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.93	734.8	29.70	754.4	46.0	7.8	61	SW	16.6	7.4	.....	.....	6	.....	.....	0	0	.....	Dr. Wierzbicki.
Eperies	28.88	733.5	29.78	756.5	38.5	3.6	89	S	.....	.....	2	.....	8cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.63	727.2	29.90	759.4	45.0	7.2	56	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.46	722.8	29.91	759.8	41.0	5.0	60	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster, Observatory	28.50	723.8	29.85	758.2	40.2	4.9	67	SW	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	The Staff.
Lemberg	28.65	727.8	29.66	753.3	38.7	3.7	70	SW	.....	.....	2	.....	5	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	29.79	756.6	29.90	759.5	48.2	9.0	78	WNW	.....	.....	3	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.45	748.1	29.93	760.2	39.2	4.0	67	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Pet. Pancsics, S. J.
Szegedin	29.63	752.6	29.92	759.9	45.0	7.2	65	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.83	757.6	29.93	760.2	46.0	7.8	78	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.13	739.8	29.85	758.2	48.4	9.1	62	W	.....	.....	4	.....	10	.....	.....	0	0	.....	I.R.Central Met. Ob'sy.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Treiste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters or 1,260 feet. At Eperies the observations have been taken at 2, instead of 2:8 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.52	749.9	29.72	755.0	49.3	9.6	78	WSW	.....	.....	4	.....	10	.....	.....	WSW	Inap.	Inap.	Royal Observatory
Furnes	29.69	754.2	29.72	754.8	50.5	10.3	76	SW	.....	.....	5	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.61	752.1	29.74	755.3	49.3	9.6	77	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54 p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

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BRITISH SERIES.

Furnished by the co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary; and Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	28.98	736.1	29.08	738.6	48.7	9.3	.....	S	8	3.6	.....	.....	4	.....	.....	0.030	0.76	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G.Carrick.
Armagh, (Observatory)	29.14	740.1	29.37	746.0	49.7	9.8	.....	SW	16	7.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston (Liverpool Obs)	.....	.....	29.47	748.5	51.8	11.0	.....	WSW	33	14.8	.....	.....	8	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton (Sharples)	29.88	733.5	29.39	746.5	48.4	9.1	.....	W	27	12.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bridgetown, Barbadoes	29.90	759.4	29.93	760.2	78.5	25.8	.....	SW	.....	.....	2	c	3	.....	.....	0.08	2.0	.....	J McLandsborough.
Cambridge (Observatory)	29.48	748.8	29.58	751.3	54.0	12.2	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Pvt.G.Surgener, A.H.C
Cardington	.....	.....	29.58	751.3	52.4	11.3	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	H. Todd.
Chatham (School M. E.)	29.53	750.0	29.66	753.4	51.1	10.6	.....	W	.....	.....	4	.....	10k	.....	.....	.....	.....	Overcast....	John McLaren.
Donaghadee	29.31	744.5	29.35	745.5	52	11.1	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	Lance Corp'l Hocker, R. E.
Dover	29.64	752.8	29.67	753.6	45	7.2	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded...	J. Mac Gowan.
Falmouth (Observatory)	29.53	750.0	29.76	755.9	49.1	9.5	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast....	J. Costello.
Fort Napier, Natal	27.67	702.8	29.89	759.2	75.6	24.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	The Staff.
Free Town, Sierra Leone	29.63	752.6	29.86	758.4	86	30.0	.....	E	.....	.....	1	.....	3k	.....	.....	.....	.....	.....	Corp'l H.Coombs,A.H.C
Galway (Queen's College)	.....	.....	29.34	745.2	49	9.4	.....	SW	.....	.....	6	.....	9	.....	.....	.....	.....	Gloomy.....	M J. O'Donaghue.
Gibraltar, Mediterranean.§	29.81	757.2	29.86	758.4	57.4	14.1	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	Corp'l S. Cordue,A.H.C.
Glasgow, (Observatory)	28.98	736.1	29.18	741.1	50.1	10.1	.....	SW	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.55	750.6	29.56	750.8	52	11.1	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	Squally.....	G. T. Watson.
Greenwich (Royal Obs'y)	29.49	749.0	29.66	753.4	51.0	10.6	.....	SW	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast....	The Staff, for G.B.Airy.
Guernsey	29.58	751.3	29.80	756.9	48.5	9.2	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Drizzling....	Dr. S.E Hoskins, F.R.S.
Helston	29.93	*760.2	30.05	763.3	51	10.6	.....	SW	.....	.....	6	.....	8k	.....	.....	0.01	0.3	Fair.....	M. P. Moyle.
Holyhead	.....	.....	29.52	749.8	49	9.4	.....	SW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.57	751.1	29.87	758.7	48.1	8.9	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew (Observatory)	29.64	752.8	29.68	753.9	51.1	10.6	.....	SW	22	9.8	.....	.....	10	.....	.....	.....	.....	Threatening	The Met'g'l Office.
Leicester (Museum)	29.30	744.2	29.55	750.6	51.0	10.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.76	755.9	29.84	757.9	60	15.6	.....	NE	.....	.....	2	.....	6k	.....	.....	.....	.....	D. clouds....	A. King.
Nairn	28.92	734.6	29.01	736.8	47	8.3	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, Bahamas	.....	.....	30.16	766.1	73.5	23.1	.....	NE	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham (Observatory)	29.34	745.2	29.53	750.0	52.1	11.2	.....	SW	.....	.....	8	.....	10k	.....	SW	0	0	Overcast....	E. J. Lowe, F. R. S.
Oscott (St. Mary's College)	29.04	737.6	29.56	750.8	49.0	9.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast....	Rev. Stephen J. Whitty
Oxford (Radcliffe Obs'y)	29.41	747.0	29.67	753.6	50	10.0	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Threatening	The Staff, for E. J. Stone, Esq.
Plymouth	29.67	753.6	29.74	755.4	50.8	10.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
*Roche's Point	29.55	750.6	29.64	752.8	51	10.6	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded...	Wm. Kennedy.
St. Ann's Head	29.46	748.3	29.62	752.3	46	7.8	.....	WSW	.....	.....	5	.....	7	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	29.02	737.1	39.3	4.1	.....	W	10	4.5	.....	.....	10	.....	.....	.....	.....	Rain & hail.	Rev. C.Clouston, L.L.D.
Scutari Cemetery, Turkey	29.74	755.4	29.81	757.2	53.8	12.1	.....	NNE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds....	Serg't W. H. Lyne.
Sheffield	29.23	742.4	29.51	749.5	53.6	12.0	.....	WSW	.....	.....	5	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.32	744.7	29.35	745.5	46.4	8.0	83	SW	.....	.....	7	.....	10	.....	.....	0	0	Overcast....	Rev. F. Redford, A. M.
Stonyhurst (Observatory)	.....	.....	29.46	748.3	47.3	8.5	.....	SW	26	11.6	.....	.....	10	.....	.....	.....	.....	Threatening	Rev. S. J. Perry.
Strathfield, Turgiss	29.47	748.5	29.68	753.9	50.8	10.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Squally.....	Rev.C.H.Griffith, F.M.S.
Truro (Royal Institution)	29.71	754.6	29.76	755.9	52	11.1	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia Observatory)	29.53	750.0	29.56	750.8	51.5	10.8	.....	SSW	34	15.2	.....	.....	8	.....	.....	Blank	Blank	D. clouds....	The Met'g'l Office.
SUB-SERIES.																			
Cape Town (C. G. H. Obs'y)	29.96	761.0	30.00	762.0	80.9	32.2	48	SSE	8 8	3.9	.....	0	0	.....	.....	0	0	Clear.....	The Staff, for D. Gill.
Colesberg Bridge, Cape Col.	25.68	652.3	.....	.....	77	25.0	.....	NW	.....	.....	.....	3cn	7kn	.....	.....	.....	.....	.....	Robert Burnet.
Constable, Cape Colony	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Hobart Town, Tasmania	.....	.....	30.17	766.3	57.0	13.9	75	S	.....	.....	3	.....	6k	.....	.....	0.6	15.	Raining.....	Andrew Gibb.
Las Palmas, Grand Canary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Horace Witherell.
Leith(RestalrigPark)Sc'tl'd	.....	.....	29.20	741.7	51.8	11.0	.....	W	.....	.....	6	.....	9k	.....	.....	0.04	1.0	Cloudy.....	C. Meldrum.
Mauritius (Observatory)	29.84	757.9	30.02	762.6	80.5	26.9	73	SSE	9.5	4.2	.....	4	2	.....	ESE	0	0	Cloudy.....	R. L. J. Ellery.
Melbourne (Observatory)	29.98	761.5	30.07	763.8	57.0	13.9	80	SE	13	5.8	.....	.....	7	.....	.....	0	0	Dull.....	J. Youngclause.
Monach Lt-house, Hebrides	.....	.....	28.91	734.3	49	9.4	.....	NNW	.....	.....	7	.....	10	.....	.....	0.4	10.	.....	.....
North Unst, Shetland Is	.....	.....	28.85	722.8	.....	.....	.....	NW	.....	.....	7	10	8	NW	.....	0	0	.....	.....

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing, but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Bradford at 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., and on the following day at Aberdeen at 10 a. m.; Helston, 9 a. m.; Sheffield, 8 a. m. The elevation of Fort Napier is 2,200 feet, or 670 meters. Colesberg Bridge and Constable, unknown. The observer at Las Palmas uses special scale of clouds and wind, which are here given without change. § These observations are taken at 1 h. 9 m., instead of 12 h. 48 m., p. m., Greenwich time.

BRITISH MARINE SERIES. VESSELS.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lw'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0 9	Sea or swell. Direction from—	Weather.	Observer.
City of Agra, S. 5° 50′. W. 29° 05′	E	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Thos. Young.
City of Cashmere, N. 13° 14′, W. 37° 14′	E	.....	.....	5	.....	4	WSW	.....	Low	NW	D. clouds	Capt. W. M. Grieve.
Barque Dochra, S. 29° 10′, W. 24° 20′	N	.....	.....	4	.....	7k	.....	N	.....	.....	D. clouds.....	Capt. N. Spalding.
S. S. German, S. 0° 49′, W. 13° 48′	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. O. D. Coxwell.
Barque Hope, N. 28° 55′, W. 92° 50′	ENE	.....	.....	4	.....	10	.....	NE	4	SE	Drizzling.....	Capt. Jas. Campbell.
Barque Royal Alexandra, S. 34° 41′, E. 21° 34′	E	.....	.....	4	.....	3	.....	.....	.....	.....	Misty.....	Capt. W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Sunbeam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. M. Dobson.
S. S. Ethiopia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Campbell.
S. S. Decapolis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. T. M. Almond.
Barque Fedalma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. L. Fox.
H. M. S. Alert	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J.P Maclear, R.N.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jas. Buchan.
S. S. Richmond	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Stuart.
Brig. Fylde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. L. C. Dart.

NOTE.—The originals give the wind-directions to 32 points, which have been corrected for magnetic variation at this office, when necessary; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used on these vessels have generally been carefully compared with English standards and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L'w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	66.6	19.2	81	SE			2	2ck	7s		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm., for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.10	739.1	29.15	740.8	44.2	6.8	82	NW			6		8						
Farõe	29.26	743.3	29.28	743.8	41.4	5.2	94	W			4		10						
Godthaab (Greenland)	29.73	755.2	29.78	756.4	— 3.6	—19.8		NW			4		10					Snowing	
Stykkisholm (Iceland)	29.00	736.7	29.05	737.8	19.4	— 7.0	97											Snowing	
Thorshavn (Farõe)	28.89	733.7	28.92	734.6	28.9	— 1.7	68	Calm			0		8						
Vestervig	29.06	738.1	29.17	740.9	41.2	5.1	89	WSW			6		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, the weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	50.0	10	74	SSW			1		10	W	NW	0.008	0.2	Covered	Collignon, Director.
Amiens, Normal School	29.71	754.5	29.82	757.3	52.2	11.2	86	SW			1		8		E	0	0	Very cloudy	Vaillant, Director.
Arras, Engin'r School	29.56	750.7	29.82	757.3	49.3	9.6	79	W			4		10k		NW			Sprinkling	Klein, Commandant.
Avignon, Normal School	29.84	757.9	29.92	759.9	57.2	14	48	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.84	745.2	29.71	754.5	46.6	8.1	82	SW			1		10			0.024	0.6	Covered	C. Saillard, Director.
Beauvais, Normal School	29.58	751.2	29.84	758.0	50.5	10.3	72	WSW			1		10		W	0.016	0.40	Covered	Frère Eugene Marie.
Besançon, Normal School	29.09	738.9	30.00	761.9	45.7	7.6	77	S			1		10		S	0	0	Covered	A. Carré, Director.
Bordeaux	29.76	755.9	29.96	760.9	53.1	11.7	47	SW			1		0			0	0	Clear	M. Rayet, Director.
Bourg-en-Bresse, N. School	29.09	738.9	30.01	762.3	49.6	9.8	69	N			1		cu	N	N	0	0		Marlot, Director.
Bourges, Normal School	29.40	746.8	29.96	761.0	47.1	8.4	97	W			1		10n		W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.65	753.0	29.89	759.2	52.2	11.2	90	SW			2		10		SW	0.020	0.50	Raining	Ch. de Rermaree, Dir
Caen, Normal School	29.77	756.1	29.85	758.1	51.8	11.0	75	SW			1		8		SW	0	0	Cloudy	M. Bietrix, Director.
Carcassonne, N. School	29.50	749.2	29.91	759.8	53.6	12	60	W			2		0			0	0	Clear	September, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.6	29.91	759.8	49.8	9.9		SW			1		10	NE	NE	0	0	Covered	Jadot, Director
Chartres, Normal School	29.28	743.7	29.85	758.2	49.6	9.8	92	SW			3		8	NE	SE	0	0		E. Lequint, Director.
Clermont-Fd, Puy de D. Obs	28.56	725.5	29.93	760.2	50.9	10.5	57	ENE			1		10			0	0		Alluard, Director.
Commercy, Normal School	29.02	737.2	29.89	759.3	45.0	7.2	94	W			2		10	W	W	0.094	2.4	Light rain	Dr. Coullet, Director.
Commune de Gréasque*	28.79	731.2	29.93	760.2	57.4	14.1	37	NE			1		2		SE	0	0		Meyrol, for L. Kina, Dir.
Grenoble, Normal School	29.18	741.1	29.96	760.9	46.4	8	86	NNE			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. Sch'l	29.76	755.8	29.97	761.3	50.0	10.0	76	WSW			1		5		WSW	0.047	1.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.62	752.4	29.93	760.2	50.4	10.2	72	WSW			2		10		WSW	0.016	0.4	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.06	738.1	30.01	762.3	47.3	8.5	72	WSW			1		5cn		S	0	0	Cloudy	A. Baudry, Director
Lorient, Naval Observatory	29.82	757.3	29.93	760.1	55.0	12.8	72	SSW			3		8		SW	0.039	1.0	¼ covered	Lt. T. Carré, Director.
Lyons Obs'y (Park Station)	29.33	744.9	29.95	760.7	52.6	11.4	56	NE			1		k		N	0	0		Ch. André, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.60	751.8	29.87	758.7	55.9	13.3	49	WNW			1		0			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	28.82	731.9	29.89	759.1	41.4	5.2	84	SW			2		10			0	0	Covered	Barbier, Director.
Mont-Louis	24.67	626.5	29.98	761.5	41.9	5.5	89	SW			3		0			0	0		M. Cave, for Dr. Fines.
Nice	29.87	758.8	29.91	759.6	56.8	13.8	67	SE			2		1	SE	SE	0	0	Clear	Capt. Boissière, Director.
Nismes, Normal School	29.69	754.0	29.91	759.6	56.3	13.5	60	N			1		0			0	0	Clear	M. Boyer, Director.
Perpignan	29.84	757.8	29.94	760.5	53.8	12.1	44	S	7.4	3.3			0			0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.	22.36	568.0			39.2	4.0							1		Calm	0	0	Clear	M. Baylac, for Gen'l de Nansouty
Pic du Midi (Summit) H. P.																			
Privas, Normal School	28.87	733.4	29.94	760.5	52.9	11.6	46	Calm			0		1	N	N	0	0	Clear	M. Taillieu
Puy de Dome (Summit) Obs	25.02	635.4			30.4	— 0.9	100	S			1		Fog			0.075	1.9	Snowing	Alluard, Director.
Rochefort, Naval Obs'y	29.99	761.8	30.02	762.6	52.7	11.5	72	SW			1		10	SW	SW	0	0	Covered	Lt E. Decante, Director
Rouen, Normal School	29.73	755.1	29.82	757.3	51.4	10.8	65	SSW			2		10		SW	0.039	1.0	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.82	757.5	29.85	758 3	52.0	11.1	66	SW			3		8	SW	SW	0	0	Very cloudy	Lt. Hercouet, Director
Saint Maur (near Paris)	29.70	754.4	29.87	758.6	50.7	10.4	72	WSW			2		10		WSW	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.94	735.0	30.01	762.2	59.0	15	58	NE			1					0	0		T. Huguet, Director
Toulouse, Observatory	29.29	744.0	30.02	762.4	46.0	7.8	69	NNW			1		2		NW	0	0	Slightly cl'dy	B. Baillaud, Dir.
Tours	29.72	755.0	29.92	760.0	50.9	10.5	72	W			1		10		W	0.059	1.5	Covered	M. de Tastes.
Versailles, Observatory	29.37	746.9	29.86	754.4	49.6	9.8	69	W			1					0.002	0.05		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.31	744.5	30.02	762.6	55.4	13	88	NNW			1		5			0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.04	763.0	30.07	763.7	72.3	22.4										0	0		L'Abbé Marchési
Paris, Montsouris Obs'y	29.58	751.4			50.2	10.1	72	WSW			2		10		W	0.004	0.1		Marié Davy, Director
Zi-Ka-Wei (near Shanghai)	30.49	774.4	30.52	775.1	37.8	3.2	76	NNE	7.4	3.3			10			0	0	Covered	Marc Dechevrens, S.J.

NOTE.—The originals give the wind-force by the scale 0 to 6, except for Perpignan and Zi-Ka-Wei in meters per second: the rain-fall as measured at 9 a. m., local times, except for Toulouse at 7 a. m., and for Lyons, Pic du Midi, (P.) Fort de France, and Zi-Ka-Wei at the moment of simultaneous observation; clouds on the scale 0. to 4 for Clermont-Fd, Commune de Gréasque and Puy de Dome, the rest in general terms, or on the scale 0 to 10; no distinction between upper and lower clouds; weather occasionally by Vienna symbols for Mont-Louis and Perpignan, but otherwise in general terms. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Mont-Louis. 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Puy de Dome, (Summit) 1,467 m., or 4.813 ft.; Tarbes 306.41 m., or 1,032 97 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 1–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Lo'er 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.94	735.0	29.80	756.8	45.9	7.7	75	W			4		8n	W		0.020	0.5	Raining	Prof. Dr. Hoh.
Berlin	29.32	744.7	29.49	749.1	48.6	9.2	66	S			4		8			0.067	1.7		Prof. Dr. Arndt.
Breslau	29.11	739.4	29.63	752.7	47.1	8.4	62	SW			5		9	W		0	0		Royal University Obs'y
Carlsruhe	29.43	747.6	29.86	758.5	46.8	8.2	86	SW			2		10	SW		0	0		Albert Senz.
Cassel	29.06	738.1	29.66	753.4	48.9	9.4	68	W			2		8	W		0	0		Dr. H. Möhl.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.47	748.6	29.84	758.0	48 9	9.4	63	SW			3		10			Inap.	Inap.		Physical Society.
Friedrichshafen	28.47	723.0	29.92	759.9	46.6	8.2	62	SSE			1		2	SW		0	0		Chief Telegrapher Wilhelm.
Hamburg	29.40	746.7	29.47	748.5	43.5	6.4	94	WSW			7		10			0.154	3.9		Dr. Reinhold Kleeman.
Kiel	29.14	740.1	29.15	740.5	42.8	6.0	74	W			8		10			0.077	1.96		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.10	739.0	29.18	741.1	35.6	2.0	91	SW			8		10			0.098	2.5		Prof. E. Luther.
Köslin			29.28	743.8	39.4	4.1		W			4		4			0.205	5.2		H. Müller.
Leipsic Observatory	29.23	742.4	29.65	753.0	49.3	9.6	66	SW			5		8	W		0.004	0.1	Sprinkling	Prof. Dr. Bruhns, Privy Counselor
Magdeburg	29.35	745 5	29.58	751.2	50.2	10.1	69	WSW			6		9ks	W		0.012	0.3		Dr. Assmann.
Memel	29.00	736.5	29.04	737.6	30.3	2.4	93	W			5		10n					Heavy snow	Reinbrecht & Issermann
Munich (München)	28.05	712.5	29.89	759.2	48.4	9.1	53	W			6		5	W		0	0	Squally	Dr. C. Lang.
Neufahrwasser	29.19	741.3	29.20	741.7	40.5	4.7	89	WSW			7		10			0 169	4.3	Raining	A. Lothes.
Neustadt (Palatinate)	29.31	744.4	29.83	757.7	48.4	9.1	72	SW			2		10	W		0	0		Reallehrer Dicknether.
Posen	29.20	741.6	29.48	748.9	46.2	7.9	78	SW			8		10			0.024	0.6		Prof. Dr. Magener.
Strassburg (in Alsace)	29.36	745.8	29.92	759.9	50.5	10.3	70	SW			4		9	W		0.002	0.04		Imp. University Observatory.
Stuttgart	28.93	734.7	29.83	757.6	48.2	9.0	67	W			5		10					Light rain	Prof. Dr. Schoder.
Thorn	29.23	742.4	29.41	747.1	44.4	6.9	77	SW			6		10			0	0		Dr. Cunerth.
Weissenburg (Bavaria)	28.36	720.3	29.93	760.2	45.3	7.4	73	W	5.1	2.3			10		W	0	0		Reallehrer J. Hopfner.
Wustrow	29.32	744.6	29.34	745.2	38.5	3.6	100	SW			7		10			0.075	1.9	Raining	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9 ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. Except for Munich, it is not certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.30	744.3	29.70	754.4	53 1	11.7		NE			4.0		10					Raining	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasonally the kind of clouds and the amount is inferred from the general terms published in the weather column; they omit the humidity and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	761.9	30.05	763.2	72.8	22.7	46	N	4	1.8			0			0	0	Blue sky	
Deesa	29.53	750.1	30.01	762.2	80.7	27.1	13	NNW	9.1	4.1			0			0	0	Blue sky	
Bombay	29.86	758.5	29.90	759.5	81.5	27.5	68	NNW	15	6.7			0			0	0	Blue sky	
Poona (Yarrowda)	28.04	712.0	29.85	758.2	91.0	32.8	16	WSW	6	2.7			2		S	0	0	D. clouds	
Belgaum	27.38	695.5	29.88	758.8	85.9	29.9	27	WSW	4	1.8			3	NW	SE	0	0	D. clouds	
Lahore	29.22	742.4	29.98	761.4	73.8	23.2	23	Calm	0.5	0.2			5			0	0	D. clouds	
Roorkee	29.04	737.5	29.96	761.1	67.8	19.9	42	SW	3.5	1.6			6			0	0		
Agra	29.42	747.4	30.00	762.0	74.7	23.7	26	NW	4.9	2.2			3			0	0		
Nagpur	28.91	734.4	29.96	760.9	84.2	29.0	8	E	3.0	1.3			0			0	0	Blue sky	
Jubbulpore	28.61	726.8	29.99	761.8	78.0	25.6	21	Calm	0.9	0.4			0			0	0	Blue sky	
Lucknow	29.61	752.1	30.00	762.0	68.8	20.4	66	NNE	1.9	0.8			0			0	0	Blue sky	
Allahabad	29.68	753.9	30.00	762.1	68.4	20.2	37	Calm	2.8	1.2			0			0	0	Blue sky	
Patna	29.83	757.7	30.02	762.5	70.3	21.3	28	W	1.6	0.7			0			0	0	Blue sky	
Hazaribagh	27.94	709.8	30.01	762.3	66.8	19.3	23	WNW	7.4	3.3			0			0	0	Blue sky	
Cuttack	29.90	759.3	29.98	761.4	79.6	26.4	39	WNW	0.6	0.3			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	761.9	72.0	22.2	47	W	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.56	750.9	29.96	761.1	69.1	20.6	38	W	2.4	1.1			0			0	0	Blue sky	
Chittagong	29.86	758.5	29.95	760.8	72.8	22.7	43	WNW	3.3	1.5			0			0	0	Blue sky	
Sibsagar	29.67	753.5	30.01	762.3	68.8	20.4	65	ENE	1.9	0.8			2			0	0	Misty	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Belgaum, 2,550 ft., or 777 m.; Nagpur, 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective observers.

STATIONS	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Lower. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.51	749.5	29.93	760.1	50.7	10.4	46	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Milan	29.39	746.6	29.93	760.1	47.3	8.5	60	SW	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Padua	29.78	757.3	29.93	760.2	48.6	9.2	67	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.5	29.93	760.1	44.6	7.0	61	SSW	1.3	0.6	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Genoa	29.73	755.1	29.92	760.1	54.0	12.2	55	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Mondovi	27.99	710.8	29.94	760.4	44.8	7.1	56	NW	.....	.....	2	.....	1	NW	.....	0	0	.....	Prof. D. C. Bruno.
Pesaro	29.82	759.1	29.94	760.4	44.4	6.9	87	NW	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Florence	29.64	752.8	29.90	759.4	53.2	11.8	42	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.84	757.8	29.92	760.0	54.0	12.2	50	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.70	754.4	29.88	759 0	57.4	14.1	43	SW	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.55	750.6	29.81	757.2	65.7	18.7	84	NNE	24.8	11.1	.....	.....	5	N	.....	0.488	12.4	.....	Prof. C. De Giorgi.
Cosenza	28.94	735.0	29.84	757.8	56.8	13.8	75	NW	0	0	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Cagliari	29.68	753.8	29.88	758.9	57.7	14.3	72	SE	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.62	752.4	29.87	758.8	58.3	14.6	62	NE	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. G. Ciacciatore.
Syracuse	29.79	756.6	29.83	757 7	55.6	13.1	67	S	1.3	0.6	.....	.....	6	WNW	.....	0.071	1.8	.....	Prof. V.G. Guiliano.
SUB-SERIES.																			
Naples, S. R.	29.34	745.2	29.86	758.5	56.3	13.5	46	N	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation at Mondovi is 556 m., or 1,824 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.40	772.1	30.42	772.6	35.4	1.9	64	NNE	6.7	3.0	.....	4ck	.....	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.17	766.3	30.38	771.6	38.5	3.6	72	NE	6.1	2.7	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.32	770.1	30.39	771.9	34.6	1.4	68	NE	8.2	3.7	.....	.....	6ck;s	.....	.....	0.020	0.57	Fair	The Staff.
Wakayama	30.33	770.4	30.38	771.6	36.1	2.3	65	N	7.1	3.2	.....	.....	0	.....	.....	0	0	Clear	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and the respective Observers.

Colima																			R. Banda, C. E.
Guadalajara	25.07	636.8	30.26	768.6	42.8	6.0	46	SW	.....	.....	1	4cs	0	.....	.....	0	0	Fair	Prof. L. Perez.
Leon	24.44	620.4	30.18	765.4	57.0	13.9	68	NW	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mazatlan	29.78	753.3	30.00	762.0	64.9	18.3	80	Calm	.....	.....	0	9cs	0	SW	.....	0	0	Very cloudy	F. Quijano, C. E.
Mexico, Central Observatory	23.05	585.5	30.11	764.8	50.0	10.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff
Morelia	24.09	611.7	.....	.....	59.9	15.5	42	N	.....	.....	2	0	0	.....	.....	0	0	Very clear	M. Fena, M. D.
Pabellon (Aguascalientes)	23.97	608.8	30.01	762.2	53.4	11.9	43	NW	.....	.....	1	6c	0	.....	SW	0	0	Fair	M. V. de Leon, M. E
Puebla (Catholic Institute)	23.36	593.4	30.24	768.2	44.8	7.1	47	Calm	0	0	.....	.....	0	.....	.....	0	0	Fine	Prof. P. Spina.
San Luis Potosi	24.20	614.6	30.17	766.3	57.4	14.1	70	SE	.....	.....	1	7	0	W	.....	0	0	Cloudy	G. Barroeta, M. D.
Tlacotalpam	29.93	760.2	29.94	760.5	74.1	23.4	91	E	.....	.....	1	2	6	S	N	0	0	Light fog	Prof. M. M. Chazaro.
Vera-Cruz	29.93	760.2	29.96	760.9	77.0	25.0	88	Calm	0	0	.....	.....	10sk	.....	.....	0	0	Very cloudy	Prof. J. Rossell
Zacatecas	22.58	573.6	30.27	768.9	50.7	10.4	45	Calm	.....	.....	0	8c	0	SW	.....	0	0	Cloudy	J. C Castrillon

NOTE.—The elevation of Colima is 607.8 m., or 1,664.4 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Morelia, 1,940 m., or 6,365 ft.; Pabellon, 1,924.4 m., or 6,313.8 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft. The data are published as given, except the conversions, which have been revised; the cirrus clouds have been transferred to the upper-cloud column.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.69	754.2	29.69	754.2	46.8	8.2	.....	W	.....	.....	5	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	29 47	748.5	29.52	749.9	45.7	7.6	.....	SW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Helder	29.54	750.4	29.54	750 4	43.3	6.3	.....	SSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.68	753.9	29.68	753.9	46.9	8.3	82	WSW	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Utrecht	29.66	753.8	29.65	753.0	50.2	10.1	76	WSW	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Bruk

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis which gives force by the scale 0 to 12; they do not give the humidity; for Utrecht, the weather as published from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	28.84	732.5	28.89	733.9	33.8	1.0	80	NNW	9.8	4.4	.....	.....	8	.....	.....	0.315	8.0	Snowing.....	
Brönö	28.49	723.7	28.53	724.7	28.2	— 2.2	57	E	4	2	.....	.....	2	.....	.....	0	0	.....	
Christiana	28.63	727.1	28.77	730.8	39.2	4.0	89	WSW	13	6	.....	.....	3	.....	.....	0	0	.....	
Tromsö	28.47	723.2	28.62	724.3	20.8	— 6.2	79	SW	7	3	.....	.....	0	.....	.....	0.472	12.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h., 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz, at Lisbon.

Angra (Azores)	30.05	763.3	30.26	768.7	57.6	14.2	78	ENE	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.4	29.96	760.9	56.1	13.4	95	ENE	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal (Maderia)	29.81	757.1	29.89	759.3	62.6	17.0	53	ENE	4.9	2.2	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon Observatory	29.59	751.6	29.95	760.7	60.3	15.7	39	S	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.13	765.3	30.20	767.1	58.3	14.6	58	NE	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. M. Cabrate, 1st Lt.
Mindello [Costa.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. Carlos Maria da Silva S. 7° 30′, E. 12° 52′	.....	.....	29.88	759.0	79.7	26.5	.....	W	.....	.....	2	.....	2	.....	W	2	W	D. clouds.....	C. J. de Senna Barcellos, Q. M.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Porto Praya, Cape Verd Ids.	.....	.....	30.05	763.3	73.0	22.8	.....	NE	.....	.....	2	.....	6	.....	NE	2	ENE	D. clouds.....	A. de Souza Roza, 2nd L't
Sà da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, Capt. J. A de Brito Capello, N. 0° 27′, E. 6° 45′	.....	.....	29.84	757.8	82.4	28.0	.....	S	.....	.....	5	.....	8	.....	S	3	S	D. Clouds. 4 hr's rain-fall.]	F. Teixeira da Silva, Comd't.
Tejo, Capt. J. M. T. Guimarães, Macao, China	.....	.....	30.24	768.1	60.8	16.0	.....	N	.....	.....	4	.....	10	.....	N	1	.....	Foggy.....	A. Terceira, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Felgo, 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the weather by the Beaufort notation; no distinction between upper and lower clouds; no humidity; duration of rain-fall in hours. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Archangel	28.67	728.1	28.69	728.6	20.1	— 6.6	92	ESE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Astrakhan	30.22	767.6	30.14	765.5	36.0	2.2	77	SSE	7	3	.....	10cp	.....	.....	.....	.....	.....	.....	Capt. Wisganow.
Barnaul	29.85	758.3	30.40	772.2	17.7	—11.3	72	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Dorpat	28.60	726.5	28.85	732.7	32.4	0.2	78	WSW	13	6	.....	.....	8kn	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	28.77	730.7	29.78	756.3	23.0	— 5.0	71	SW	18	8	.....	.....	7	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Kasan	29.32	744.7	29.60	751.8	23.9	— 4.5	74	S	13	6	.....	.....	8	.....	.....	.....	.....	.....	.....
Kertch	29.96	761.0	29.98	761.5	46.6	8.1	86	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Kieff	29.92	734.6	29.57	751.0	37.6	3.1	76	WSW	11	5	.....	ck	7ks	.....	.....	.....	.....	.....	Lagorio.
Krotzowo*	29.70	754.4	30.20	767.1	27.1	— 2.7	69	S	2	1	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Lugan	29.60	751.9	29.82	757.3	33.4	0.8	77	S	18	8	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Moscow	28.54	725.0	29.10	739.2	31.1	— 0.5	79	S	13	6	.....	.....	8ks	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nertchinsk	28.08	713.1	30.66	778.8	— 2.2	—19.0	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaiev	29.81	757.2	29.88	759.0	38.3	3.5	100	SW	4	2	.....	.....	7cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.01	762.3	30.26	768.5	37.4	3.0	66	ENE	7	3	.....	.....	2ks	.....	.....	.....	.....	.....	Kurdakof.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin (China)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	28.60	726.4	28.61	726.8	25.3	— 3.7	87	W	34	15	.....	.....	8km	.....	.....	.....	.....	.....	Physical Observatory.
Tashkend	28.67	728.3	30.32	770.2	35.6	2.0	78	NE	2	1	.....	.....	10	.....	.....	.....	.....	Raining.....	Central Physical Obs.
Tiflis	28.70	728.9	30.14	765.5	49.1	9.5	34	Calm	0	0	.....	.....	5s	.....	.....	.....	.....	Light clouds	Teich, A. M.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Warsaw	29.06	738.0	29.48	748.9	39.9	4.4	84	SSW	27	12	.....	.....	10n	.....	.....	.....	.....	Raining.....	.....
Wilna	28.81	731.7	29.23	742.4	37.8	3.2	63	SSW	11	5	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Yeniseisk	30.26	768.6	30.58	776.6	13.8	—10.1	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective observers.

Barcelona, Met. Obs'y	29.83	757.6	29.94	760.4	58.1	14.5	40	SW	5.2	2.33	.....	.....	0	.....	.....	0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.3	29.99	761.7	57.7	14.3	79	E	1.9	0.83	.....	0	0	.....	.....	0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	29.96	684.8	.....	.....	49.6	9.8	44	NE	14.5	6.49	.....	0	0	.....	.....	0	0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.71	703.7	29.95	760.7	52.3	11.3	57	N	4.5	2.00	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.97	761.3	60.8	16.0	54	SSW	1.7	0.78	.....	3	5	NNE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.98	736.2	29.87	758.8	58.5	14.7	62	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.09	764.3	30.16	766.0	65.6	18.9	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.92	760.1	29.98	761.4	81.5	27.5	68	NE	4.6	2.1	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.81	757.2	29.91	759.7	61.3	16.3	51	ESE	17.3	7.8	.....	0	4	.....	E	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.3	30.07	763.6	74.8	23.8	72	NE	14.9	6.67	.....	5cs	3n	NE	NE	0.020	0.50	D. clouds.....	Enrique Gadea, Chief Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer is reduced to freezing, but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'er 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	28.49	723.7	28.58	724.7	14.7	— 9.6		N			2		10			0	0		
Umea	28.46	722.8	28.61	724.1	25.5	— 6.4	100	NNW			6		10			0.165	4.2		
Hernosand	28.51	724.1	28.56	725.4	31.3	— 0.4	45	NW			4		2			0.094	2.4		
Stockholm	28.46	722.8	28.63	727.3	36.3	2.4	82	SW			4		8			0.087	2.2		
Wisby	28.73	729.8	28.79	731.3	35.6	2.0	93	W			4		0			0.272	6.9		
Sub-Series.																			
Upsala	28.52	724.3	28.60	726.5	30.6	— 0.8	94	S	13.0	5.8			10			0.030	0.75	Snowing	Nils Ekholm.
Naval Series.																			
H. M. Corvette Balder, N. 28° 55′, W. 81° 56′			30.14‡	765.6‡	73.8	23.2		E			8		7					Misty	A. C. Schonmeyr.
H. M. Corvette Saga																			Capt. M. von Krusenstierna.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvettes Balder and Saga give wind-force and weather by Beaufort notations. The rain-fall is measured at 8 a. m., local time, and apparently on the following day. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.50	724.0	29.96	760.9	45.7	7.6	55	NNE			2		0			0	0	Clear.	The Observatory.
Zurich	28.29	718.5	29.95	760.6	48.2	9.0	57	S			1		2			0	0	Clear.	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.6 mm.; Thermometer, +2.2 Cent. Relative Humidity, —12 per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.87	758.8	51.3	10.7	57	NE	14	6.5			8			0.433	11.0		The Observatory.
Fao, Persian Gulf																			
Valona			29.77	756.2	57.4	14.1		W			1		5			0	0	Cloudy	A. Bertraud.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y			30.02	762.6	71.6	22.0	48	NE			1	9ck				0	0		Prof. C. V. A. van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers.

Bathurst, N. B.																			Hon. J. Ferguson.
Chatham, N. B.	29.62	752.3	29.69	754.1	32.3	0.2	94	NE	3	1.3			10n			0.25	6.3	Light rain	G. A. Blair.
Charlottetown, P. E. Island																			H. J. Cundall, C. E.
Cornwall, Ontario	29.14	740.1	29.32	744.7	49.2	9.6	79	W			4	c	1s			0.188	4.77	Clear	James Smith, M. A.
Dalhousie, N. B.	29.50	749.3	29.68	753.9	29.0	— 5.0		E			1		10n			0.60	15.2	Overcast	H. A. Johnson.
Father Point, Quebec					22.9	— 5.1	93	NE	40	17.9			10n			1.15	29.2	Light snow	J. McWilliams.
Fredericton, N. B.	29.61	752.1	29.68	753.9	36.9	2.7	94	SE	11	4.9			10n			0.28	7.1	Light rain	Prof. Harrison.
Fort Garry, Manitoba	29.27	743.4	30.23	767.8	—18.0	—27.8	100	W	1	0.4			10n			0	0	Cloudy	James Stewart.
Granton, Ontario	28.63	727.2	30.77	756.1	29.0	— 1.7	100	W			4		10n			0	0	Cloudy	James Grant.
Halifax, N. S.	29.76	755.9	29.90	759.4	37.1	2.8	99	SE	3	1.3			Fog			0.010	0.25	Rain & fog	A. Allison.
Hamilton, Ontario	29.37	746.0	29.75	755.6	38.3	0.7	91	SW			4	10ck	0	SW		0.11	2.8	Cloudy	Geo. Dickson, B. A.
Heart's Content, N. F.																			E. Weedon.
Kingston, Ontario	29.13	739.9	29.47	748.5	36.5	2.5	72	W	26	11.6		8k	0	W		0.35	8.9	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	29.56	758.4	29.90	759.4	34.8	1.6	94	S	4	1.8			10n			Inap.	Inap.	Overcast	C. H. Rigby.
Montreal, Quebec	29.13	739.9	29.33	745.0	42.9	6.1	86	SE	20	8.9			10ks			0.34	8.6	Cloudy	C. H. McLeod, C. E
Moose Factory, Ontario																			J. R. Nesson.
Norwood, Ontario	28.82	732.0	29.53	750.0	34.0	1.1	72	W	7	3.1		10k	0	W		0.12	3.0	Cloudy	Rev. T. F. Fotheringham, M. A
Parry Sound, Ontario	28.84	732.5	29.56	750.8	25.0	— 3.9	75	W	44	19.7			10n			0.44	11.2	Light snow	Rev. R. Mosley.
Peterboro, Ontario	28.82	732.0	29.59	751.6	34.7	1.5	84	SW			5		10ks			0	0	Overcast	J. F. Jeffers, M. A.
Port Dover, Ontario	29.08	738.6	29.80	756.9	31.0	— 0.6	89	SW	19	8.5		10k	0	SW		0.18	4.6	Cloudy	H. Morgan.
Port Stanley, Ontario	29.10	740.7	29.84	757.9	30.2	— 1.0	69	SW	36	16.1			10ks			0.11	2.8	Cloudy	M. Payne.
Quebec, Quebec	29.06	738.1	29.40	746.7	28.0	— 5.0	100	F			7		10n			0.19	4.8	Sleeting	Capt. Ashe, R. N.
Rockliffe, Ontario	28.79	731.3	29.26	743.2	36.6	2.6	66	W	10	4.5		0	6s			0.53	13.5	Fair	W. H. McIntyre.
St. John, N. B.	29.58	751.3	29.74	755.4	38	3.3	100	S	10	4.5			10n			0.19	4.8	Raining	G. Murdock, C. E.
Saugeen, Ontario	28.03	734.8	29.68	753.9	27.0	— 2.8	90	W	54	24.1			10s			0.28	7.1	Cloudy	Mrs. K. Stewart.
Stratford, Ontario	28.47	723.1	29.80	756.9	29.0	— 1.7	94	NW	22	9.8			10s			0.09	2.3	Cloudy	C. J. MacGregor, M. A.
Sydney, C. B.	29.94	760.5	29.98	761.5	35.5	1.9	95	SW	8	3.6			10n			0	0	Overcast	T. C. Hill, C. E.
Toronto, Ontario	29.30	744.2	29.70	754.4	33.7	0.9	63	W	26	11.6			10ks			0.180	4.57	Cloudy	Magnetic Observatory
Windsor, N. S.	29.74	755.4	29.84	757.9	39.0	3.9	95	S	5	2.2			10n					Raining	Prof. John E. Oram, M. A
Woodstock, Ontario	28.67	728.2	29.77	756.1	29.6	— 1.3	77	SW	37	16.5		3cs	2ks	W	W	0.25	6.3	Fair	Professor Wolverton.
Yarmouth, N. S.	29.68	753.9	29.75	755.6	44.8	7.1	98	S	17	7.6			10s			0.20	5.1	Light rain	Lt. F. E. Wilmot, R. N.
Sub-Series.																			
St. Johns, Newfoundland																			John Delany.
St. Pierre, N. F., l'Hopital Maritime			30.08	764.0	33.8	1.0		SW			2					0.28	7.1		The Commandant.

Note.—The originals give the amount of cloudiness by the scale 0 to 4 and 0 to 10. At St. Pierre wind-force is given on the scale 0 to 7. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,152 ft., or 360 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of BRIG. GEN. ALBERT J. MYER, Chief Signal Officer. U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Lo'er 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	745.7	29.58	751.3	49	9.4	93	S	6	2.7			10s		Calm	0.29	7.4	Cloudy	
Alpena, Michigan	29.01	736.8	29.69	754.1	15	— 9.4	82	W	30	13.4		0	5s		W	0.25	6.3	Fair	
Atka, Aleutian Is., Alaska																			
Atlanta, Georgia	28.91	734.3	30.05	763.3	57	13.9	87	SW	4	1.8			10s		Calm	0.04	1.0	Cloudy	
Atlantic City, New Jersey	29.78	756.4	29.79	756 7	48	8.9	93	SW	12	5.4		10k	Fog	SW	Calm	0.02	0.5	Cloudy	
Augusta, Georgia	29.91	759.7	30.11	764.8	65	18.3	78	SW	6	2.7		5cs	0	SW		0	0	Fair	
Baltimore, Maryland	29.74	755.4	29.79	756.7	55	12.8	87	W	8	3.6			10s		W	0.13	3.3	Cloudy	
Barnegat, New Jersey	29.73	755.1	29.75	755.6	49	9.4	100	S	16	7.2			10s;fg		sw;Calm	0.05	1.3	Cloudy	
Bismarck, Dakota	28.16	715.3	30.02	762.5	— 7	—21.7	100	Calm	0	0		0	0			0	0	Clear	
Boerne, Texas	28.66	728.0	30.04	763.0	37	2.8	100	NW	4	1.8			10n		N	0.10	2.5	Raining	
Boise City, Idaho	27.23	691.6	30.19	766.8	25	— 3.9	87	NE	6	2.7			10n		Calm	0.03	0.8	Light snow	
Boston, Massachusetts	29.50	749.3	29.65	753.1	55	12.8	100	SW	19	8.5			10n		SW	0.48	12.2	Light rain	
Brackettville, Texas	28.92	734.6	30.00	762.0	45	7.2	100	N	2	0.9			10n		Calm	0.11	2.8	Light rain	
Breckenridge, Minnesota	29.04	737.6	30.17	766.3	— 6	—21.1	100	NW	6	2.7			10n		Calm	Inap.	Inap.	Light snow	
Brownsville, Texas	29.95	760.7	30.00	762.0	60	15.6	94	N	8	3.6			10s		Calm	0	0	Cloudy	
Buffalo, New York	29.02	737.1	29.73	755.1	34	1.1	70	SW	24	10.7			10s		SW	0.04	1.0	Cloudy	
Burkes, Arizona																			
Burlington, Vermont	29.13	739.9	29.41	747.0	48	8.9	93	S	23	10.3		2ck	8ks	W	W	0.06	1.5	Cloudy	
Cairo, Illinois	29.87	758.7	30.29	769.4	31	— 0.6	88	NW	11	4.9			10s		NW	0.35	8.9	Cloudy	
Campo, California																			
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	62	16.7	88	SW	19	8.5		8cs	Haze	W		0	0	Cloudy	
Cape Henry, Virginia	29.90	759.4	29.91	759.7	63	17.2	72	S	22	9.8		5ck	2s	SE	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.04	763.0	30.06	763.5	61	16.1	94	SW	18	8.0		5c	Haze	SW	Calm	0	0	Fair	
Cape May, New Jersey	29.79	756.7	29.82	757.4	55	12.8	81	SW	22	9.8			10ks		SW	0.18	4.6	Cloudy	
Castroville, Texas	29.31	744.5	30.05	763.3	41	5.0	91	NW	4	1.8			10s		Calm	0.09	2.3	Threatening	
Cedar Keys, Florida	30.15	765.8	30.18	766.6	68	20.0	90	NW	3	1.3		0	0			0	0	Clear	
Charleston, South Carolina	30.04	763.0	30.10	764.5	61	16.1	82	SW	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.15	740.4	29.94	760.5	63	17.2	78	SW	2	0.9		5cs	5s	SW	SW	0	0	Cloudy	
Chattanooga, Tennessee	29.24	742.7	30.04	763.0	56	13.3	75	SW	7	3.1			10n		SW	0.25	6.3	Light rain	
Cheyenne, Wyoming	28.91	607.8	29.85	758.2	8	—13.3	55	W	14	6.3		0	0			0	0	Clear	
Chicago, Illinois	29.37	746.0	30.11	764.8	18	— 7.8	68	W	10	4.5			10n		Calm	0.35	8.9	Light snow	
Cincinnati, Ohio	29.46	748.3	30.14	765.5	35	1.7	53	W	7	3.1			10ks		W	0.35	8.4	Cloudy	
Cleveland, Ohio	29.21	741.9	29.96	761.0	29	— 1.7	78	SW	19	8.5		8k	0	W		0.03	0.8	Cloudy	
Coleman City, Texas	28.30	718.8	30.05	763.3	32	0.0	79	SE	8	3.6			10s		SE	0.21	5.3	Cloudy	
Columbus, Ohio	29.17	740.9	30.05	763.3	31	— 0.6	58	W	17	7.6		0	8ks		NW	0.14	3.6	Fair	
Concho, Texas	28.19	716.0	29.94	760 5	36	2.2	90	E	4	1.8			10n			0.13	3.3	Light rain	
Corsicana, Texas	29.74	755.4	30.24	768.1	33	0.6	89	N	4	1.8			10n		Calm	0.20	5.1	Light rain	
Davenport, Iowa	29.54	750.3	30.24	768.1	10	—12.2	69	W	12	5.4		0	0			0.04	1.0	Clear	
Dayton, Washington T'y					33	0.6	79	S			4		10n		Calm	0.14	3.6	Light snow	
Deadwood, Dakota	25.22	640.6			6	—14.4	52	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	29.00	736.6	30.27	768.8	34	1.1	59	NE	8	3.6		10cs	0	NE		0	0	Cloudy	
Delaware Breakwater, Del.	29.82	757.4	29.84	757.9	56	13.3	87	SW	23	10.3			10s		SW	0.04	1.0	Cloudy	
Denison, Texas	29.38	746.2	30.22	767.6	30	— 1.1	78	NE	4	1.8			10ks		N	Inap.	Inap	Cloudy	
Denver, Colorado	24.71	627.6	29.93	760.2	— 1	—18.3	68	S	5	2.2		0	0			0	0	Clear	
Des Moines, Iowa	29.33	745.0	30.31	769.9	5	—15.0	75	NW	4	1.8		0	0			0.04	1.0	Clear	
Detroit, Michigan	29.18	741.1	29.88	758.7	28	— 2.2	77	W	16	7.2			10s		W	0.07	1.8	Cloudy	
Dodge City, Kansas	27.51	698.7	30.02	762.5	10	—12.2	58	NE	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa	29.45	748.0	30.23	767.8	6	—14.4	52	N	9	4.0		0	Haze		Calm	0.11	2.8	Clear	
Duluth, Minnesota	29.34	745.2	30.11	764.8	— 5	—20.6	63	NW	2	0.9		0	0			0.50	12.7	Clear	
Eagle Pass, Texas	29.34	745.2	30.08	764.0	53	11.7	61	N	6	2.7			10s		Calm	0.04	1.0	Threatening	
Eastport, Maine	29.59	751.6	29.65	753.1	40	4.4	100	S	10	4.5			10n;fog		S	0.19	4.8	Heavy rain	
Edinburg, Texas					42	5.6	91	NW			4		10s		Calm	0	0	Cloudy	
El Paso, Texas																			
Erie, Pennsylvania	29.11	739.4	29.84	757.9	33	0.6	70	W	30	13.4			10s		W	0.06	1.5	Cloudy	
Escanaba, Michigan	29.27	743.4	29.99	761.7	2	—16.7	44	NW	16	7.2		0	5s		NW	0.06	1.5	Fair	
Florence, Arizona	28.58	725.9	30.18	766.6	36	2.2	71	N	2	0.9		0	0			0	0	Clear	
Fort Apache, New Mexico	25.13	638.3	30.58	776.7	23	— 5.0	86	Calm	0	0		0	0			0	0	Clear	
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.90	708.6	29.96	761.0	— 8	—22.2	79	Calm	0	0		0	0			0	0	Clear	
Fort Custer, Montana	26.74	679.2			6	—14.4	76		4	1.8			10s		NW	0	0	Cloudy	
Fort Davis, Texas	25.15	638.8	30.11	764.8	47	8.3	92	S	3	1.3		Haze	1s	Calm	Calm	0	0	Fair	
Fort Elliot, Texas	27.04	686.8	29.44	747.8	18	— 7.8	22	SE	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.70	754.4	30.27	768.8	27	— 2.8	88	Calm	0	0		0	10s		Calm	0.04	1.0	Cloudy	
Fort Grant, Arizona	25.16	639.0	29.96	761.0	43	6.1	52	NW	10	4.5		0	0			0	0	Clear	
Fort Griffin, Texas	28.88	733 5	30.22	767.6	33	0.6	70	N	4	1.8			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.22	691.4			0	—17.8	71	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.81	757.2	34	1.1	90	Calm	0	0			10n		Calm	0.58	14.7	Light rain	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.96	735 6	30.14	765.5	29	— 1.7	56	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota																			
Fort Verde, Arizona					25	— 3.9	62	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.28	718.3	29.88	758 9	41	5.0	100	N	2	0.9			10n		Calm	1.00	25.4	Heavy rain	
Galveston, Texas	30.06	763.5	30.10	764.5	52	11.1	86	N	17	7.6			10s		NE	0.13	3.3	Cloudy	
Grand Haven, Michigan	29.31	744.5	30.00	762.0	23	— 5.0	86	W	22	9.8			10s		W	0.22	5.6	Cloudy	
Helena, Montana																			
Henrietta, Texas																			
Indianapolis, Indiana	29.34	745.2	30.17	766.3	24	— 4.4	61	W	8	3.6			10s		Calm	0.17	4.3	Cloudy	
Indianola, Texas	30.09	764.3	30.12	765.0	45	7.2	92	NE	23	10.3			10s		NE	Inap.	Inap.	Cloudy	
Jacksboro, Texas	28.94	735.1	29.14	740.1	30	— 1.1	76	NE	1	0.4			10s		NE	0	0	Cloudy	
Jacksonville, Florida	30.14	765.5	30.16	766.1	64	17.8	89	SW	4	1.8			10s		Calm	0	0	Cloudy	
Keokuk, Iowa	29.55	750.6	30.23	767.8	11	—11.7	70	W	7	3.1		0	1s		Calm	Inap.	Inap.	Clear	
Key West, Florida	30.14	765.5	30.18	766.6	72	22.2	71	E	6	2.7		2k	0	E		0	0	Fair	
Kittyhawk, North Carolina	30.00	762.0	30.02	762.5	62	16.7	94	SW	11	4.9		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.02	737.1	30.02	762.5	54.5	12.5	81	W	8	3.6			10ks		SW	0.12	3.0	Cloudy	
La Crosse, Wisconsin	29.36	745.7	30.17	766.3	9	—12.8	78	NW	1	0.4		0	0			0.27	6.9	Cloudy	
La Mesilla, New Mexico	26.10	662.6	30.25	768.3	33	0.6	51	SE	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.77	756 1	30.12	765.0	50	10.0	93	N	6	2.7			10ks		N	0.85	21.6	Cloudy	
Leavenworth, Kansas	29.40	746.7	30.34	770.6	7	-13.9	77	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Lewiston, Idaho					30	— 1.1	100	E	2	0.9			10n		Calm	0.01	0.3	Snowing	
Little Rock, Arkansas	29.90	759.4	30.28	769.1	34	1.1	61	N	8	3.6			10s		NW	0.75	19.1	Cloudy	
Los Angeles, California	29.81	757.2	30.16	766.1	47.0	8.3	85	NE	3	1.3			10s		E	0	0	Cloudy	
Louisville, Kentucky	29.57	751.1	30.16	766.1	30	— 1.1	78	W	9	4.0			10s		Calm	0.35	8.9	Cloudy	
Lynchburg, Virginia	29.23	742.4	29.89	759.2	60	15.6	71	SW	5	2.2			10s		W	0.09	2.3	Cloudy	
Madison, Wisconsin	29.02	737.1	30.10	764.5	6	—14.4	76	W	8	3.6		0	0			0.26	6.6	Clear	
Marquette, Michigan	29.20	741.7	29.98	761.5	3	—16.1	73	NW	20	8.9			10s		NW	0.28	7.1	Cloudy	
Mason, Texas	28.46	722.9	30.31	769.9	35	1.7	90	Calm	0	0			10n		Calm	0.48	12.2	Light rain	

UNITED STATES SERIES -CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Memphis, Tennessee	29.90	759.4	30.26	768.6	93	0.6	70	NW	12	5.4	.....	.....	10s	.....	Calm	1.26	32.0	Cloudy	
Milwaukee, Wisconsin	29.28	743.7	30.08	764.0	8	—13 3	78	W	20	8.9	.....	0	1s	.....	Calm	0.18	4.6	Clear	
Mobile, Alabama	30.00	762.5	30.10	764.5	65	18.3	94	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	29.90	759.4	30.13	765.3	63	17.2	88	N	1	0.4	.....	8k	0	W	.....	0.08	2.0	Fair	
Morgantown, West Virginia	28.92	734.6	29.90	759.4	53	11.7	54	SW	10	4.5	.....	.....	10s	.....	Calm	0.77	19.6	Cloudy	
Mt. Washington, N. H.	23.27	591.0	29.63	752.6	34	1.1	100	NW	81	36.2	.....	.....	Fog	.....	NW	0.40	10.2	Foggy	
Nashville, Tennessee	29.64	752.8	30.20	767.1	39	3.9	52	NW	6	2.7	.....	.....	10ks	.....	W	0.72	18.3	Cloudy	
New Haven, Connecticut	29.55	750.6	29.66	753.4	52	11.1	100	SW	10	4.5	.....	.....	10n	.....	SW	0.66	16.8	Light rain	
New London, Connecticut	29.62	752.3	29.67	753.6	50	10.0	93	SW	8	3.6	.....	.....	10s;fg	.....	Calm	0.54	13.7	Cloudy	
New Orleans, Louisiana	30.02	762.5	30.08	764.0	68	20.0	84	NW	8	3.6	.....	0	8ks	.....	SW	0	0	Cloudy	
Newport, Rhode Island	29.65	753.1	29.70	754.4	49	9.4	100	SW	10	4.5	.....	.....	Fog	.....	.....	0.41	10.4	Light rain	
New River, North Carolina	.....	.....	.....	.....	59	15.0	94	SW	.....	.....	2	Haze	Haze	Calm	Calm	.....	.....	Dense haze	
New York, New York	29.52	749.8	29.69	754.1	52	11.1	100	S	12	5.4	.....	.....	10ks;fg	.....	S	0.23	5.8	Foggy	
Norfolk, Virginia	29.88	758.9	29.94	760.5	60	15.6	88	SW	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
North Platte, Nebraska	27.15	689.6	29.97	761.2	7	—13.9	77	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.70	754.4	30.74	780.8	36.0	2.2	90	S	19	8.5	.....	.....	10n	.....	Calm	0.64	16.3	Light snow	
Omaha, Nebraska	29.08	738.6	30.32	770 1	1	—17.2	71	W	8	3.6	.....	0	0	.....	.....	0.08	0.8	Clear	
Oswego, New York	29.31	744.5	29.93	752.6	42	5.6	66	W	18	8.0	.....	0	2ks	.....	W	0.29	7.4	Fair	
Pembina, Dakota	29.18	741.1	30.14	765.5	—18	—27.8	100	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pensacola, Florida	30.10	764.5	30.18	766.8	67	19.4	95	Calm	0	0	.....	4k	Fog	SW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	29.70	754.4	29.74	755.4	53	11.7	73	SW	14	6.3	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Phœnix, Arizona	28.90	734.0	30.78	781.8	40	4.4	63	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.18	436.4	29.39	746.5	—17	—27.2	100	NW	22	9.8	.....	2cs	0	Calm	.....	0.02	0.5	Clear	
Pilot Point, Texas	29.40	746 7	30.27	768.8	40	4.4	82	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Pioche, Nevada	24.05	610.9	29.82	757.4	22	— 5.6	58	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.10	739.1	29.92	760.0	44	6.7	45	W	12	5.4	.....	.....	9s	.....	W	0.10	2.5	Cloudy	
Port Huron, Michigan	29.10	739.1	29.78	756.4	30	— 1.1	78	W	25	11.2	.....	.....	10s	.....	W	0.04	1.0	Cloudy	
Portland, Maine	29.51	749.5	29.56	750.8	45	7.2	100	S	4	1.8	.....	.....	10n	.....	Calm	0.52	13.2	Light rain	
Portland, Oregon	29.90	759.4	29.98	761.5	40	4.4	82	S	25	11.2	.....	.....	10n	.....	SW	0.11	2.8	Light rain	
Portsmouth, North Carolina	.....	.....	.....	.....	63	17.2	94	SW	18	8.0	.....	8cs	0	SW	.....	0	0	Cloudy	
Prescott, Arizona	24.78	629.4	30.14	765.5	23	— 5.0	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	65	18.3	84	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.84	757.9	30.21	767.3	43	6.1	51	N	5	2.2	.....	8k	0	NW	.....	0	0	Cloudy	
Rio Grande City, Texas	29.90	759.4	30.12	765.0	47	8.3	92	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Rochester, New York	29.02	737.1	29.63	752.6	36	2.2	71	W	32	14.3	.....	5k	0	W	.....	0.05	1.3	Fair	
Roseburg, Oregon	29.66	753.4	30.25	768.3	40	4.4	73	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.10	764.5	30.18	766.8	49	4.4	82	NW	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
St. Louis, Missouri	29.66	753.4	30.28	769.1	18	— 7.8	68	W	14	6.3	.....	6c	2s	SW	Calm	0.11	2.8	Fair	
St. Paul, Minnesota	29.18	741.1	30.11	764.8	0	—17.8	58	SW	4	1.8	.....	8ck	0	W	.....	0.24	6.1	Fair	
Salt Lake City, Utah	25.74	653.8	30.07	763.8	13	—10.6	44	SE	5	2.2	.....	4c	0	W	.....	0	0	Fair	
San Antonio, Texas	29.46	748.3	30.06	763.5	40	4.4	100	N	5	2.2	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
San Diego, California	30.12	765.0	30.19	766.8	46	7.8	84	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.28	743.7	29.97	761.2	31	— 0.6	69	SW	22	9.8	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Sandy Hook, New Jersey	29.67	753.6	29.70	754.4	55	12.8	93	SW	12	5.4	.....	.....	10s	.....	SW	0.22	5.6	Cloudy	
San Francisco, California	30.14	765.5	30.21	767.3	45	7.2	88	SE	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.23	590.0	29.77	756.1	17	— 8.3	35	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.00	762.5	30.15	765.8	63	17.2	89	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Shreveport, Louisiana	29.99	761.7	30.23	767.8	36	2.2	80	N	6	2.7	.....	.....	10n	.....	Calm	1.79	45.5	Light rain	
Silver City, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Smithville, North Carolina	30.07	763.8	30.10	764.5	61	16.1	94	SW	8	3.6	.....	1c	Haze	Calm	.....	0	0	Clear	
Socorro, New Mexico	25.30	644.9	29.46	748.3	22	— 5.6	45	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Illinois	29.55	750.6	30.28	769.1	17	— 8.3	67	W	12	5.4	.....	2c	2s	W	W	0.41	10.4	Fair	
Springfield, Massachusetts	29.50	749.3	29.63	752.6	51	10.6	93	S	5	2.2	.....	.....	Fog	.....	.....	0.60	15.2	Foggy	
Stockton, Texas	27.00	685.8	30.00	762.0	43	6.1	36	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.52	749.8	29.57	751.1	45	7.2	100	S	16	7.2	.....	.....	10n	.....	S	0.33	8.4	Light rain	
Toledo, Ohio	29.25	742.9	29.96	761.0	31	— 0.6	69	SW	24	10.7	.....	10k	c	SW	.....	0.07	1.8	Clearing	
Tucson, Arizona	27.60	701.0	30.15	765.8	39	3.9	63	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.57	751.1	30.07	763.8	35	1.7	84	SE	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Uvalde, Texas	29.20	741.7	30.03	762.7	45	7.2	92	NE	3	1.3	.....	.....	10s	.....	NE	0.05	1.3	Cloudy	
Vicksburg, Mississippi	29.90	759.4	30.17	766.3	50	10.0	82	N	5	2.2	.....	.....	10s	.....	.....	0.01	0.3	Cloudy	
Virginia City, Montana	24.03	610.4	29.51	749.5	9	—12.8	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.79	756.7	30.17	766.3	43	6.1	83	E	2	0.9	.....	.....	10ks	.....	NE	0	0	Cloudy	
Washington, D. C.	29.69	754.1	29.80	756.9	54	12.2	93	S	10	4.5	.....	.....	10n	.....	SW	0.12	3.0	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	29	— 1.7	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, North Carolina	29.98	761.5	30.05	763.3	63	17.2	83	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	27	— 2.8	76	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Massachusetts	29.66	753.4	29.70	754.4	52	11.1	86	SW	32	14.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.87	733.3	30.36	771.1	— 8	—22.2	68	Calm	0	0	.....	.....	0	.....	.....	0.06	1.5	Clear	
Yuma, Arizona	29.95	760.7	30.10	764.5	46	7.8	31	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Bogota, U. S. Colombia	22.00	558.8	.....	.....	55.6	13.1	67	N	.....	.....	1	8cs;k	0	.....	.....	0.02	0.5	.....	Thomas Herran.
Fayetteville, Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	70	21.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	76	24.4	78	Calm	0	0	.....	2c	0	Calm	.....	.....	.....	Fair	James Gall.
Nassau, W. I.	29.93	760.7	30.03	762.7	76.5	24.7	67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	77	25.0	91	E	.....	.....	2	.....	10n	.....	.....	0.900	22.86	Rainy	C. J. Hering.
PuertoBerrio, U.S.Colombia	29.33	745.0	29.88	758.9	83	28.3	76	N	.....	.....	1	.....	2k	.....	.....	0	0	.....	Francesco J. Cisneros.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.43	772.9	30.48	774.2	—24.0	—31.1	.....	S	24	10.7	.....	4ck	1s	SE	S	0	0	Squally	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except Bogota, Paramaribo and York Factory. The elevations of the barometers are at Atlanta, 1,131.3 feet, or 344.8 meters; Bismarck, 1,704.3 ft., or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Bogota, 8,717.4 ft., or 2,657.2 m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 313 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,289 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fayetteville, 1,422 ft., or 433 m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fort Custer, (?); Fort Davis, 5,203 (?) ft., or 1,588 (?) m.; Fort Elliot, 2,500 (?) feet, or 762 (?) m.; Fort Grant, 4,823 (?) ft., or 1,470 (?) m.; Fort Griffin, 1,270 (?) ft., or 387 (?) m., Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Mt Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Socorro, 4,064 ft., or 1,239 m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added to the barometer readings as approximate reductions for altitude above sea-level: Bismarck, 1,856 inches, or 47.14 millimeters; Boise City, 2.96 in., or 75.2 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Davis, 4.96 in., or 126.0 mm.; Fort Grant, 4.800 in., or 121.9 mm.; Fort Verde, 3,488 in., or 88.6 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.69 in., or 68.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.83 in., or 110.7 mm.; Virginia City, 5.18 in., or 139.2 mm.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'er 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Lo'er From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.09‡	764.3‡			70	21.1	95	SW	5	2.2			5		SW	0	0			Fair.	
Navy Yard, Portsmouth, N.H.	29.56‡	750.8‡			48	8.9	93	SE	2	0.9			10							Rain & fog	
Naval Hospital, Yokohama, Japan	30.33‡	770.4‡			36.5	2.5	62	ENE			3		2k			0.08	2.0			Fair.	
Adams, Gulf of Dulce, Costa Rica	29.89‡	759.2‡			80	26.7	81	SW			1		2		ENE			Smooth	SW	Foggy.	
Colorado, New York, N. Y.	29.67‡	753.6‡			53	11.7		S	35	15.6			10		SW	0.085	2.16			Foggy	
Constitution, Aspinwall, Panama	29.93‡	760.2‡			75	23 9	95	NNE			5		10		NNE			Mod'ate	NE	Cloudy.	
Enterprise. Naples, Italy	29.88‡	758.9‡			58	14.4	53	NE			1		2		N			Smooth		Clear.	
Franklin, Off Navy Yard, Norfolk, Va.	29.96‡	761.0‡			60	15.6	82	SSW	1 .8	4.8			8		W	0	0			Fair.	
Independence, Mare I'd, Navy Yard, Cal.	30.20‡	767.1‡			46	7.8	??	SE	1.2	0.5			2			0	0			Clear	
Kearsarge, Boca del Toro, Chiriqui	30.01‡	762.2‡			74	23.3	90	W			2		8		W			Smooth		Light rain.	
Lackawana, Navy Yard, Mare I'd., Cal.	30.21‡	767.3‡			47	8.3	85	W			0–1		10?							Clear?	
Marion, S 34° 56′, W. 55° 55′	30.14‡	765.5‡			66	18.9	64	SE			3		5		S;E	0	0	Smooth		Fair.	
Michigan, Erie, Pa.	29.81‡	757.2‡			33	0.6	51	W			6		10		W					Cloudy.	
Minnesota, New London, Conn.	29.70‡	754.4‡			55	12.8	74	SW			1		10							Cloudy.	
Monocacy, Shanghai, China.	30.49‡	774.4‡			39	3.9	73	NNE			2		10		NE					Overcast.	
New Hampshire, Port Royal, S. C.	30.10‡	764.5‡			61	16.1	94	W	3	1.3			2	S	Calm	0	0			Clear	
Nipsic. N. 28° 00′ W. 73° 46′	30.21‡	767.3‡			72	22.2	80	NNE			1		2		NE					D. clouds	
Onward, Callao, Peru †.	29.87‡	758.7‡			68	20.0	100	Calm			0		10					Long	W	Foggy.	
Palos, Tientsin, China.	30.56‡	776.2‡			31	— 0.6	??	WSW			1		8							Cloudy.	
Passaic, Washington, D. C.	29.86‡	758.4‡			58	14.4	88	S			2		10		SW					Light rain.	
Pensacola, Panama, Panama.	29.91‡	759.7‡			74	23.3	95	WNW			0–1		5					Smooth		D. clouds.	
Powhatan, Norfolk, Va.	29.95‡	760.7‡			62	16.7	83	SW			2		5		WNW					Fair.	
Quinnebaug, Leghorn, Italy	29.91‡	759.7‡			61	16.1	50	WNW			1		0							Clear	
Richmond, Hong-Kong, China.	30.27‡	768.8‡			61	16.1	82	ENE			1–2		10		NNE	0	0	Smooth		Misty.	
Rio Bravo, Brownsville, Texas. †	30.21‡	767.3‡			59	15.0	100	NW	4	1.8			10		Calm	0	0			Cloudy.	
Santee. Annapolis, Md	29.85‡	758.2‡			58	14.4	94	Var.			2		10			0	0			Cloudy.	
Shenandoah, Montevideo, Uruguay	30.14‡	765.5‡			65	18.3	78	SSE			3		2		SSE			Smooth		Fair.	
St. Louis, League Island, Pa.	29.79‡	756.7‡			47	8.3	100	SW	15	6.7			8		SW	0.05	1.3			Cloudy.	
Swatara, N. 37° 06′, E. 8° 10′	29.90‡	759.4‡			59	15.0	100	W			5		5		W			Mod'ate	NW	Fair.	
Tennessee, Norfolk, Va.	29.94‡	760.5‡			61	16.1	82	WSW	14	6.3			8		W			Smooth		Cloudy.	
Trenton. Villafranca, France.	29.93‡	760.2‡			*61	16.1	61	SE			1		2			0	0			Clear.	
Tuscarora, Acapulco, Mexico.	29.94‡	760.5‡			75	23.9	68	Calm			0		0			0	0	Smooth		Clear	
Vandalia. Navy Yard, Brooklyn, N.Y.	29.72‡	754.9‡			53	11.7	93	SW			3		10		NE					Cloudy.	
Wabash, Boston, Mass.	29.67‡	753.6‡			55	12.8	93	SSW	15	6.7			10			0 52	13.2			Light rain.	
Wachusett, Montevideo, Uruguay †	30.63‡	778.0‡			65	18.3	73	SSE			3		8		S			Smooth	S	Cloudy.	
Wyoming, Naples, Italy	29.84‡	757.9‡			58	14.4	48	N			2		2		N			Smooth	N	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scales 0 to 4 or 0 to 10; weather occasionally by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
ALLAN LINE, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Caspian, M. Trocks																			W. E. Jago.
S. S. Circassian																			R. Carruthers.
S. S. Hibernian, F. Archer																			
S. S. Moravian, J. Graham, Halifax, N. S	29.96†	761.0‡	34	1.1	100	SW			4		10		SW	2 hr's	2 hr's			Rain & fog	John France.
S. S. Peruvian																			A. Christie & F. W. Erskine
S. S. Sardinian, J. E. Dutton																			A. D. Air.
S. S. Sarmatian, A. D. Air.																			
AMERICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents, Philadelphia, Pa.																			
S. S. Illinois, J. W. Shackford																			C. M. Rowe & G. Worth, Jr
S. S. Indiana, R. W. Sargent N. 49° 38′, W. 25° 20′	29.61‡	749.3‡	51	10.6	??	W			8		5		W	Mod'ate	Mod'ate	Heavy	W	Fair	
S. S. Ohio, Henry Morrison. Liverpool, Eng. *T.	29.68‡	753.9‡	54	12.2		W			5		8		W	0	0		NW	Cloudy.	Wm. Shackford.
CALIFORNIA AND MEXICAN S. S. CO., MARINE SERIES. Furnished by the co-operation of J. Birmingham, Agent, San Francisco, California.																			
S. S. Newbern, W. Metzger.																			
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Algeria, W. Watson.																			H. Buckland.
S. S. Scythia, W. H. O. Hains																			
NORTH GERMAN LLOYD OF BREMEN, MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents, Baltimore, Md.																			
S. S. Amerika, C. Pohle																			C. Undütsch.
S. S. Braunschweig, C. Undutsch																			
S. S. Leipzig, F. Pfeiffer, Cape Henry, Va.	29.92‡	760.0‡	60.0	15.6	94	WSW			5		5		WSW	0	0	Mod'ate	WSW	Hazy	S. Risius.
S. S. Ohio, G. Meyer.																			
OCCIDENTAL AND ORIENTAL S. S. CO., MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; D. D. Stubbs, Secretary, San Francisco, Cal.																			
S. S. Belgic, L. Meyer, Hong Kong, China. †	30.23‡	767.8‡	62	16.7	83	SE			1		10		E					Cloudy.	D. A. Joyce.
S. S. Gaelic, W. H. Kidley, N. 37° 47′, W. 125° 24′. †	30.24‡	768.1‡	52	11.1		NW			4	cs				0	0	Mod'ate	NW	D. clouds	J. A. Thompson.
S. S. Oceanic, Metcalf																			
OREGON S. S. CO., MARINE SERIES. Furnished by the co-operation of K. van Oterendorp, Agent, San Francisco, California.																			
S. S. Geo. W. Elder, J. M. Lachlan																			J. M. Lachlan.
S. S. Oregon																			
PACIFIC COAST S. S. CO., MARINE SERIES. Furnished by the co-operation of Goodall, Perkins & Co., Agents, San Francisco, California.																			
S. S. Ancon, E. Alexander, N. 35° 59′ W. 121° 34′. †	30.22‡	767.6‡	55	12.8		NW			3		0			0	0			Clear.	
S. S. Idaho, E. Alexander																			
S. S. Orizaba																			
S. S. State of California, G. Debney																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; rain-fall for S.S. Indiana in general terms.

NOTE—The originals give the wind-force by the scale 0 to 12.

NOTE.—The originals give the wind-force by the scale 0 to 12, occasionally miles per hour.

NOTE.—The originals give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4. do not distinguish between upper and lower clouds; duration of rain-fall in hours. The S. S. Amerika gives sea-swell in general terms, the S. S. Braunschweig in general terms, or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

NOTE.—The orginals give the wind-force by the scale 0 to to 12.

NOTE.—The originals give the wind-force by the scale 0 to 12.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *The error of the barometer is not known.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS AND CAPTAINS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		SEA-SWELL.		WEATHER.	OBSERVER.
						Direction.	Velocity.		Force.	Amount.		Direction.							
										Up'er	Lo'er	Upper.	Lower.						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	CHARACTER.	DIRECTION FROM—		

PACIFIC MAIL S. S. CO., MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Dimond & Co., Agents, San Francisco, Cal.

S. S. Alaska, D. S. Austin, N. 8° 30', W. 79° 35 ...†	29 86‡	758.9‡	77	25.0	95	NE			2		8		NNE	0	0	Mod'ate	NE	Fair	F. A. Johnston.
S. S. China, W. B. Seabury																			
S. S. City of Chester, E. Polemann																			E. Polemann.
S. S. City of Panama, M. Connolly, Panama†...	29.87‡	58.7‡	72	22.2		NW			1		5		NW	10 min.	10 min.	Smooth		Cloudy	R. Thompson & J. Anderson.
S. S. City of Sydney, H. C. Dearborn																			
S. S. City of Tokio, J. Maury																			E. LeSack.
S. S. Colima, R. R. Searle, N. 15° 24', W. 93° 38'†	29.92‡	760.0‡	79	26.1	95	ESE			2		4			0	0	Smooth	S	Misty	
S. S. Dakota, D. E. Griffiths N. 48° 24', W. 129° 12..†	29.74‡	755.4‡	40	4.4		S			1		5		S	Drizzle	Drizzle			Hazy	D. E. Griffiths.
S. S. Granada, J M Cavarly																			
S. S. Z alandia, R. C. Ghest, N. 0° 32', W. 165° 53'	29 74‡	755.4‡				ENE			4				SE			Mod'ate	N	Fine	

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds.

RED STAR LINE, MARINE SERIES.

Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents, Philadelphia, Pa,

S. S. Belgenland, S. Jackson																			
S. S. Nederland, S. Stokes. N. 49° 21', W. 8° 49'.....†.	29.73‡	755.1‡	53	11.7		SW	3	1.3			8		SW	0	0	High	NW	Misty	J. Farmer & W. Apetan.

NOTE—The originals give the barometer as read off; no distinction between upper and lower clouds.

WHITE STAR LINE, MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, J. W. Jennings																			J. W. Jennings.
S. S. Britanic, H. Perry																			J. Jones.
S. S. Celtic, B. Gleadell																			
S. S. Republic, P. J. Irving																			G. W. Ryder.

NOTE—The originals give the barometer as read off; wind-force by the scale 0 to 12.

MISCELLANEOUS MARINE SERIES.

Furnished by the co-operation of the Observers named.

Schr. Abby K. Bentley																			Mehaffey.
Schr. Adale Fuller, J. Jorgensen																			J. Jorgensen
Schr. Annie R. Lewis, L. L. Lewis																			L. L. Lewis.
Bark. Carrie Heckle, B. F. Woodbury																			B. F. Woodbury.
rigantine George, W. H. Champlin																			
Iron Cross, W. Randall, N. 17° 19', W. 46° 00'	29.9.‡	760.0‡	76	24.4	82	ESE			1		5		SSW	0	0	Con-fused	NNW; NE	Misty	W. Randall.
Barque Syringa, E. Lewis																			E. Lewis.

NOTE.—The originals give the barometer as read off; amount of cloudiness by various scales, and generally without distinguishing between upper and lower.

†Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office. *Instrumental error not known.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with a special request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For Naval and Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. When rain has fallen, but neither amount nor duration is recorded, the word "Blank" is published in the rain-fall column. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brigadier General, Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

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Albert J. Myer

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